

MANUFACTURERS' RECORD

A WEEKLY REVIEW OF THE IRON, STEEL, METAL & HARDWARE TRADES.

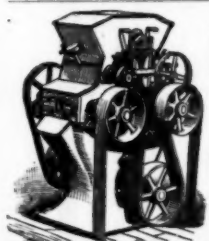
AND A MANUFACTURING AND TEXTILE PAPER, DEVOTED TO THE UPBUILDING OF SOUTHERN MANUFACTURES AND THE DEVELOPMENT OF THE MATERIAL RESOURCES OF THE SOUTH.

VOL. 8. No. 8. }
WEEKLY.

BALTIMORE, OCTOBER 3, 1885.

{ \$3.00 PER ANNUM.
{ SINGLE COPIES, 10 CENTS.

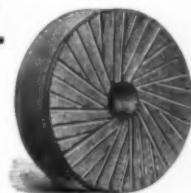
—MANUFACTURERS OF— **JAS. SMITH & CO.** —DEALERS IN—
CARD CLOTHING Works, 413 to 421 Race St., Cor. of Crown. **Manufacturers' Mill Supplies**
Of Every Description. **COTTON and WOOLEN MACHINERY.** Office & Store, 137 Market St., Philadelphia. Of Every Description.



NORDYKE & MARMON CO., INDIANAPOLIS, IND.
Flour Mill Machinery.

We make Rolls or Portable Mills for making New Process Corn Meal.
Complete outfits on any system Rolls or Stones for Wheat Grinding.

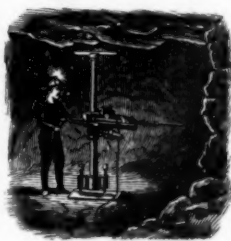
Send for Circular of our \$500 Flour Mill Outfit.



ELEVATORS

Send for Illustrated Circular

MORSE ELEVATOR WORKS.
MORSE, WILLIAMS & CO. Successors to CLEM & MORSE
Manufacturers and Builders of HYDRAULIC STEAM, BELT and Hand-Power, PASSENGER and FREIGHT **ELEVATORS**
Office: 411 CHERRY STREET.
Works: FRANKFORD AVE., WILDEY & SHACKANAXON STS. PHILADELPHIA, PA.
—Branch Office, 108 Liberty Street, NEW YORK.—



"ECLIPSE"

"STRAIGHT LINE"

ROCK DRILLS, AIR COMPRESSORS,

Machinery for Tunneling, Grading, Mining, Quarrying, etc.

TEN COMPLETE TUNNELING PLANTS FURNISHED FOR SOUTH PENNA. RAILROAD, PA.

FOR CATALOGUES, ESTIMATES, &c., ADDRESS,

INGERSOLL ROCK DRILL CO., 10 Park Place, N. Y.

MORTON, REED & CO., Agents, Baltimore.



THE MEDART PATENT WROUGHT * RIM * PULLEY.

OVER 300,000 NOW IN USE. THE LIGHTEST, STRONGEST, BEST BALANCED and CHEAPEST in the WORLD.

Whole Pulleys from 9 inches to 120 inches diameter. Split Pulleys from 12 inches to 120 inches diameter. All widths of face up to 36 inches, crowning or straight, with single, double or triple sets of arms. Also Tight and Loose Pulleys. Absolute satisfaction guaranteed.

SHAFTING, HANGERS, COUPLINGS, &c.

MEDART PATENT PULLEY CO., 1206 TO 1214 N. MAIN STREET, ST. LOUIS, MO.
Stores: 99 to 101 W. Second St., Cincinnati. 24 & 26 S. Canal St., Chicago.

J. A. J. SHULTZ, President.

B. C. ALVORD, Secretary.

SHULTZ BELTING COMPANY, ST. LOUIS, MO.

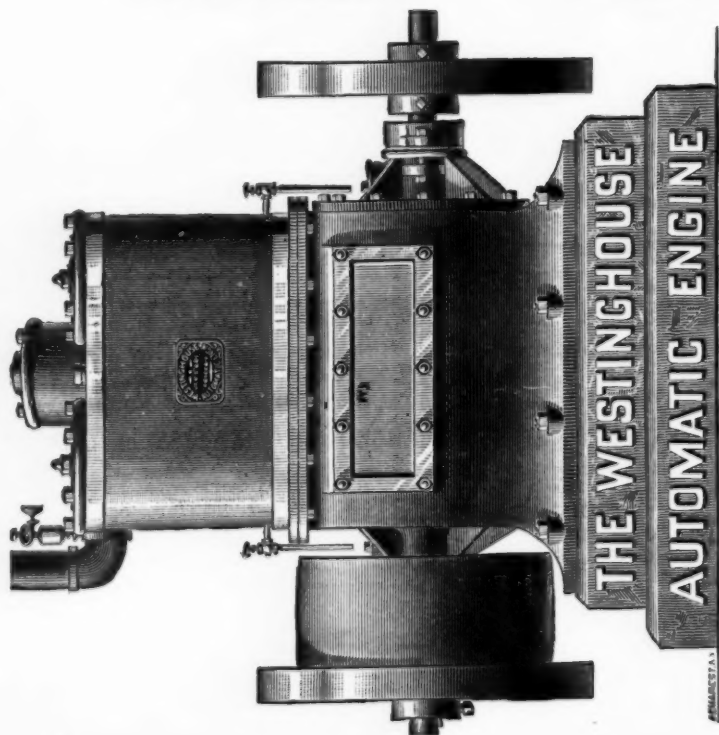
Manufacturers of Shultz Patent Fulled Leather Belting, Lace and Picker Leather.

OUR BELTING is made of Leather, tanned on the surfaces only; the interior (which is the fibre and strength of the hide) is not tanned, but Rawhide fulled and softened by our patent process. Our belting is more pliable, and hugs the pulley better and transmits more power than any other Belt. It does not pull out at the laceholes or rivets. It stretches less than any other Belt. It works equally well for the largest Driving Belts or for the fastest running machinery and smallest pulleys. OUR LACE LEATHER is made of Rawhide, by our patent process, without any tanning and is stronger and will wear better than any other. WE ALSO MAKE THE BEST PICKER-LEATHER AND BELT GREASE IN THE COUNTRY. Satisfaction guaranteed.

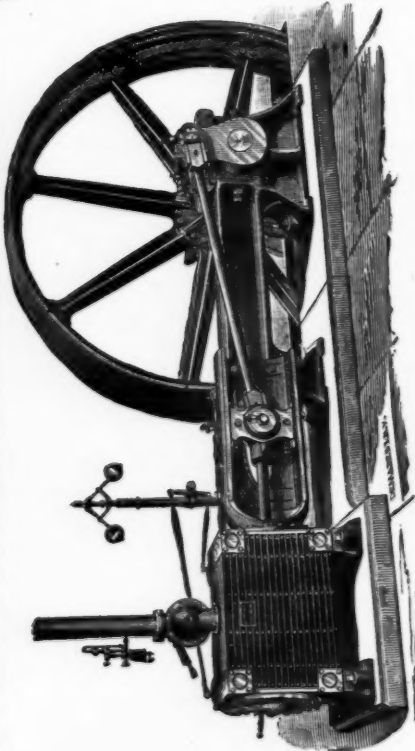
Southern Agents—FRED. N. OGDEN, New Orleans, La.

J. H. COFFIN & CO., Memphis, Tenn.

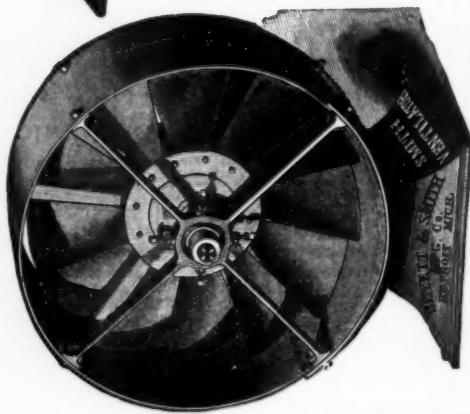
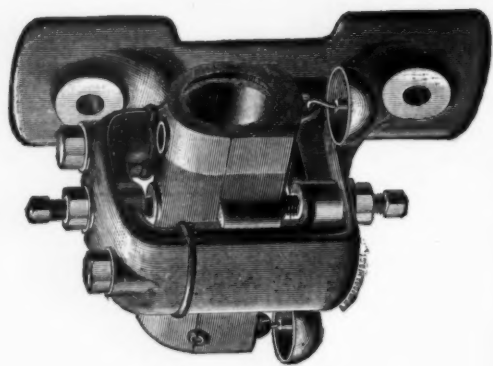
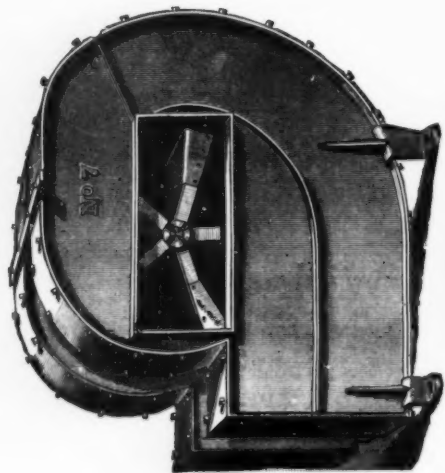
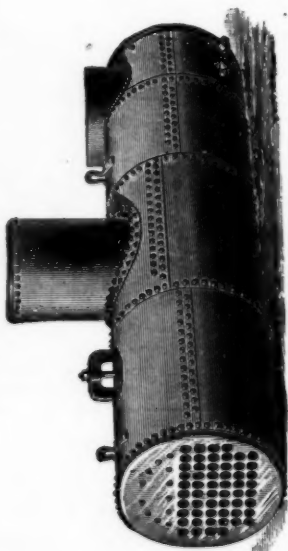
J. L. LINDSAY, Richmond, Va.



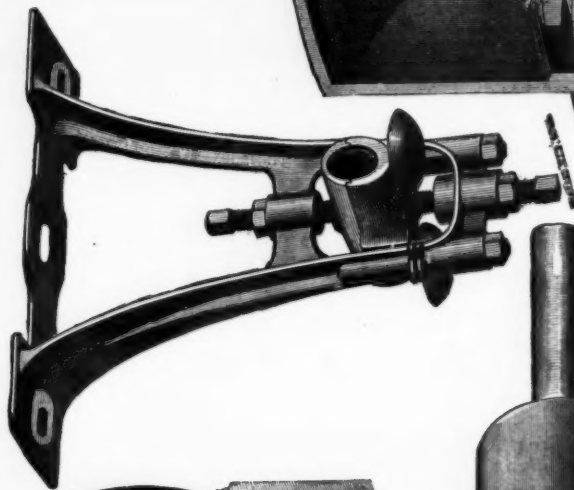
THE WESTINGHOUSE
AUTOMATIC ENGINE



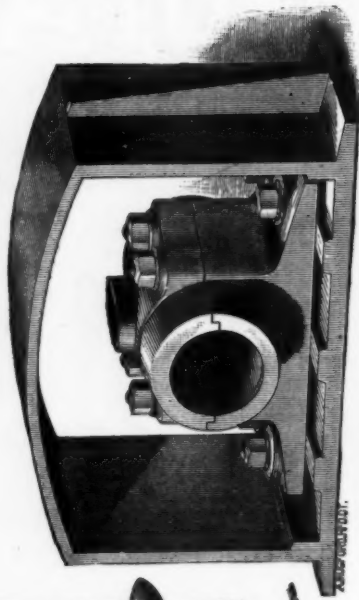
THE REYNOLDS-CORLISS ENGINE.



THE SMITH FANS, & CO.



PAPER PULLEYS.



WE WILL PLAN AND CONTRACT FOR YOUR ENTIRE PLANT

INCLUDING
BOILERS, ENGINES, HEATERS, PUMPS, PIPING, SHAFTING, HANGERS,
PULLEYS, FANS, EXHAUSTERS, VENTILATING WHEELS, &c.

ALSO, COMPLETE ELECTRIC LIGHT INSTALLATIONS,

And will deliver the whole in Running Order for

ONE FIGURE AND ONE PROFIT!

WESTINGHOUSE, CHURCH, KERR & CO.,

Contracting and Consulting Engineers,

17 CORTLANDT STREET, NEW YORK.

AMERICAN SUPPLY COMPANY,

Formerly Myron Fish & Co., of Valley Falls, R. I., and Kendrick Loom Harness Co., of Providence, R. I.

—MANUFACTURERS OF—

LOOM HARNESS AND REEDS,

Oak Belting, Lace and Picker Leather, and Dealers in Supplies for Cotton, Woolen and Silk Mills.

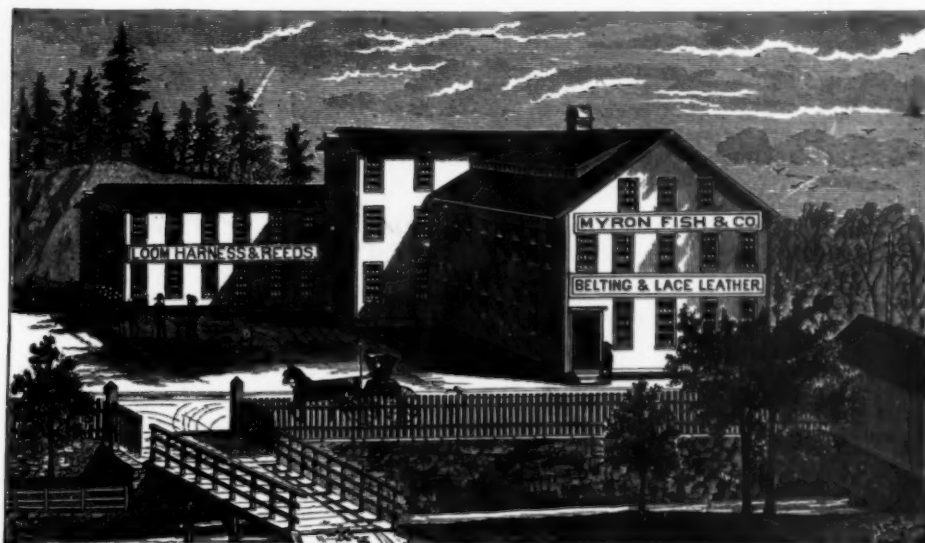
Agents for Joseph Noone's Sons'

Roller, Slasher & Clearing Cloths.

—Agents for—

RODDICK'S PATENT IMPROVED OIL CANS.

Calr, Sheep and Lamb Roller Skins, and Roll Covers' Tools.



WE HAVE
Unequalled Facilities for Furnishing
Shuttles & Meddle Frames,
WIRE HEDDLES & WIRE GOODS
Of all Descriptions.

—Special Notice to Worsted and Silk Mills.—

We Manufacture both Worsted and Cotton Machine-Knit Mail Harness for Weaving Fine Worsted and Silk Goods. Also a Full Line of Supplies for Jacquard Looms.

Office and Salesrooms, 10 Exchange Place, Providence, R. I. —FACTORIES:— PROVIDENCE and VALLEY FALLS, R. I.

A. D. LOCKWOOD, Pres. JOHN KENDRICK, Vice-Pres. MYRON FISH, Treas. JOHN A. CARTER, Sec. JOSEPH H. KENDRICK, Gen'l Agent.

THE WHITIN MACHINE WORKS,

J. LASSELL, President and Treasurer.

G. E. TAFT, Agent.

H. ELLIS, Superintendent.

—MANUFACTURERS OF—

COTTON MACHINERY

—Openers, * Lappers, * Cards, —

Railway Heads, Drawing,

RING SPINNING, SPOOLERS, WET and DRY TWISTERS,

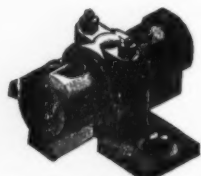
REELS,

—WARPERS, * DRESSERS, * LOOMS, * &C.—

—Whitinsville, Worcester County, Mass.—

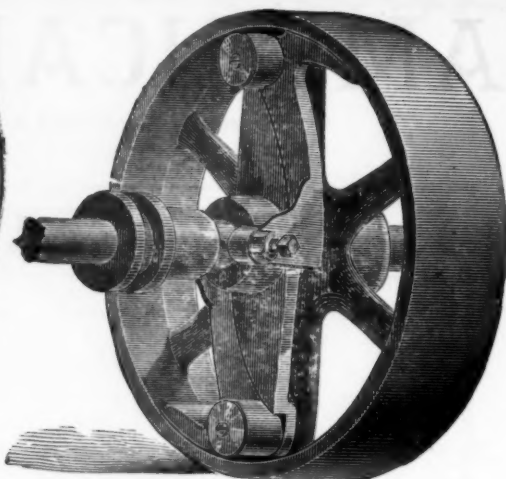
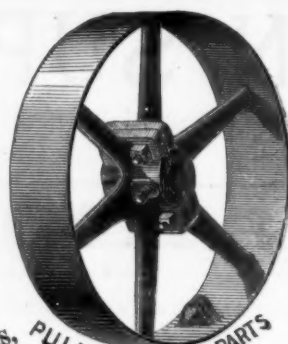


ADJUSTABLE SELF-OILING HANGER.

Ball and Socket
Self-Oiling Pillow Block.DOUBLE-BRACED ADJUSTABLE
SELF OILING HANGER.Adjustable Self-Oiling
Post Hanger.
6 inches from post to
center of shaft.

FAIRMOUNT MACHINE WORKS.
Office, 2106 Wood St., Philadelphia.
THOMAS WOOD,
Manufacture as Specialties
Power Looms, Patent Bobbin or Quill
Winding Machines, Plain and Press-
er Spooling Machines, Reeling,
Warp Spinning, Dyeing, Sizing,
Scouring, Finishing and Cal-
endering Machines.

WARPING MILLS,
16, 18 and 20 yards Circumference.
WITH IMPROVED HECKS,
SHAFTING,
With Patent
ADJUSTABLE SELF-OILING HANGERS, PULLEY IN TWO PARTS
8, 10, 12, 15, 18, 20, 24 and 30 in. drop.
Also WALL, POST AND GIRDER HANGERS.
Pulleys, from 4 inches to 10 ft. in diam. or.
PATENT FRICTION PULLEY.
Pulleys in two parts, any size required.
PATENT HOISTING MACHINES.
Oil Presses for Lard, Fish and Paraffine.



PATENT FRICTION PULLEY.

Simple, reliable and very durable.
Suitable for any kind of driving, they
serve equally well as driver or driven.

Special Driving,
such as Angular, Muley, and Gallows Driving,
furnished for any position
where possible to transmit power by belts.
PULLEYS from 4 inches to 10 feet in diameter.

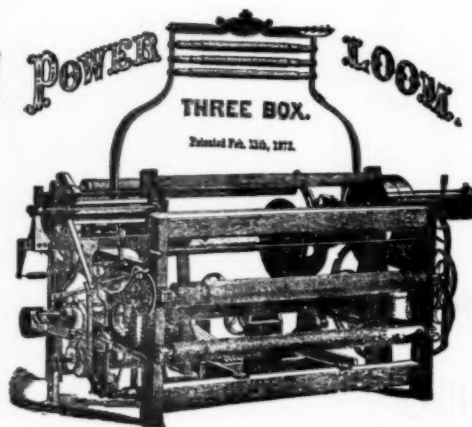
Why use old style Bearings, that require oiling
every day, when you can get Bearings at less cost
that only require oiling once in Six Months, and
thus save oil and labor enough to pay for the bear-
ings in use. Test the matter for yourselves; a
trial always secures the trade.

ADDRESS.

THOS. WOOD,

Office, 2106 Wood St.

PHILADELPHIA, PENNA., U. S. A.



THE LAMB KNITTING MACHINE MANUFACTURING CO.

MANUFACTURERS OF

THE LAMB KNITTING MACHINES, TUTTLE KNITTING MACHINE,

—AND—

New AUTOMATIC CIRCULAR RIB KNITTING MACHINE

New Automatic Circular Rib Knitting Machine

For Knitting Ribbed Tops for Socks, Shirt Cuffs,
and Drawer Bottoms.

This machine will produce from twenty-five to thirty dozen pairs of Cuffs in ten hours, making the WELT and LOOSE COARSE AUTOMATICALLY. The Needle Cylinder and Dial are made of FORGED CAST STEEL, and everything about the machine is built in the most THOROUGH and WORKMANLIKE manner, with the view of having them run the longest possible time without repairs. They are complete within themselves.

We make them any number of
ribs desired.
**THE LAMB MACHINE
IS THE ONLY
MACHINE**



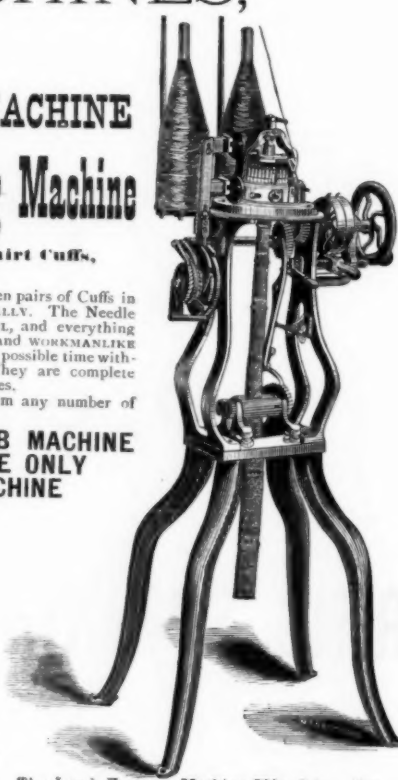
THE LAMB MACHINE.

Send for Full Particulars of
the Above Machines to



That knits hosiery or tubular work of all sizes.
That narrows and widens on hosiery or tubular work.
That knits a regular, right-angle heel, such as is knit by hand.
That narrows off the toe.
That knits a sock or stocking complete.
That knits mittens and gloves of any size without a seam.
That forms genuine Ribbed or Seamed work.
That knits the Double, Flat, or Fancy Webs.
That knits an elastic seam-stitch Suspender with button holes.
That knits the Afghan stitch, Cardigan Jacket stitch, Fancy Ribbed stitch, the Raised Plaid stitch, the Nubia stitch, Shell stitch, Unique stitch, Tidy stitch, &c., &c.

It is now the Standard Machine for manufacturing all lengths of needle beds, from 8 inches by 60 inches, and cuts from four needles to the inch to ten to the inch. More of these machines have been made and sold than all others combined.



The Lamb Knitting Machine Mfg. Co's New
CIRCULAR RIB KNITTING MACHINE,
For Knitting Ribbed Tops, for Socks, Shirt Cuffs
and Drawer Bottoms.

THE LAMB KNITTING MACHINE MANUFACTURING CO., CHICOPEE FALLS, MASS.

IN CORRESPONDING, PLEASE MENTION "THE MANUFACTURERS' RECORD."

HOWARD & BULLOUGH, & RILEY,

BUILDERS AND IMPORTERS OF

COTTON MACHINERY.

ALSO, IMPORTERS OF

Wool, Worsted and Flax Machinery and English Card Clothing. Hardened and Tempered Steel Wire a Specialty.

MILL ENGINEERS.

No. 19 PEARL STREET, BOSTON, MASS.

GREAT SUCCESS OF OUR

PATENT ELECTRIC STOP-MOTION,

ALREADY APPLIED TO OVER

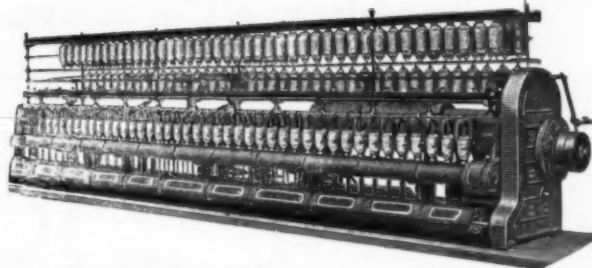
10,000 DELIVERY HEADS OF DRAWING, AND

71,000 INTERMEDIATE ROVING SPINDLES.

The quality of Sliver produced by our Frames surpasses all others, and Waste, Single and Roller Laps are prevented, and production increased.

Correspondence Solicited.

Send for Circulars.

SLUBBING AND ROVING FRAMES WITH LATEST AND BEST IMPROVEMENTS.

SPECIALTIES:

EXHAUST OPENERS, LAPPERS, (LORD'S EVENERS,) IMPROVED ROLLER CARDS, PRODUCE MORE AND MAKE LESS WASTE THAN ANY OTHER.

7,000 SELF-STOPPING WARPERS, Already working with latest improvements.

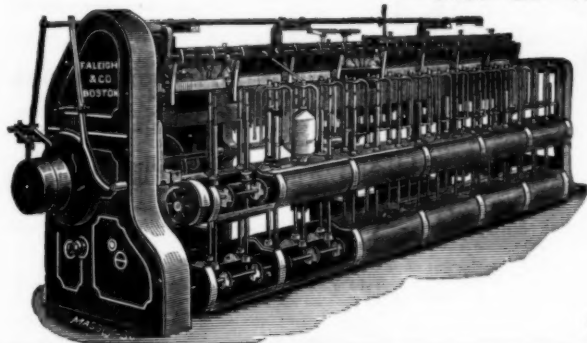
800 CYLINDER SLASHERS Now at work in America alone

Patent and plain Spindle, Spinning and Twisting Frames, Spoolers, Reels and Circular Warpings, Cloth Folders, Size Kettles plain and Fancy Looms, Spindles, Flyers and Fluted Rolls.

F. A. LEIGH & CO.

Importers of Mill Machinery,

—No. 40 WATER STREET, BOSTON, MASS.—



Openers, * Lappers, * Cards, * Drawing,
Slubbing and Roving Frames,
CARD CLOTHING, ETC.

Correspondence Solicited.

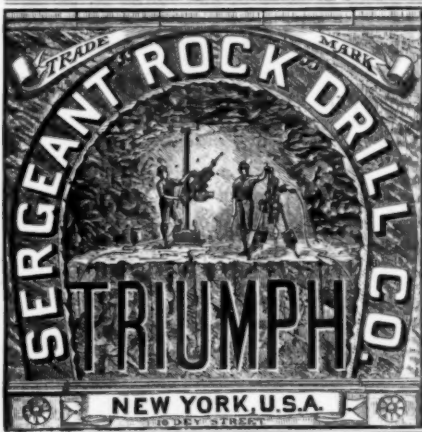
Send for Circulars.

**GANDY'S PATENT MACHINE BELTING**

GOLD MEDAL AWARDED NEW ORLEANS, 1885, FOR BEST RUNNING BELTS.

*Made PERFECTLY Straight and any Length without Joints.**For Main Driving it is the Best. Much Cheaper Than Leather.*

MANUFACTURED BY

THE GANDY BELTING CO., BALTIMORE, MD.**THE "TRIUMPH" ROCK DRILL**

and NORWALK AIR COMPRESSOR

Are the Latest and Most Improved Machines that were ever designed for the work required of them. They are the Most Simple, Economical and Effective now known, and will satisfy all Purchasers.

Boilers, Steam Pumps, Hoisting Engines, Pipe and Fittings, Electric

Blasting Apparatus, Powder, Caps and Fuse, Steam and Air Hose, Wire Rope,

—And General Mining and Contractors' Supplies.—

Complete Specifications for Rock Drilling and Mining Plants Furnished on Application.

SERGEANT DRILL CO., 16 Dey Street, New York, U. S. A.**WHITINSVILLE SPINNING RING CO.**

WHITINSVILLE, MASS., U. S. A.

SUPERIOR WORKMANSHIP.

NOT EXCELLED IN DURABILITY.

EVERY RING WARRANTED.

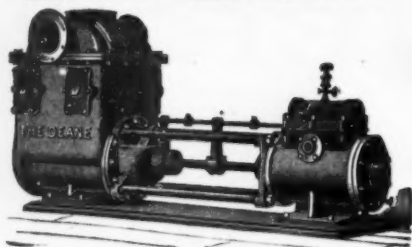


The Simplest and Best Method of Adjusting Rings.



SEND FOR SAMPLE AND PRICE-LIST.

THE DEANE STEAM PUMP CO., HOLYOKE, MASS.



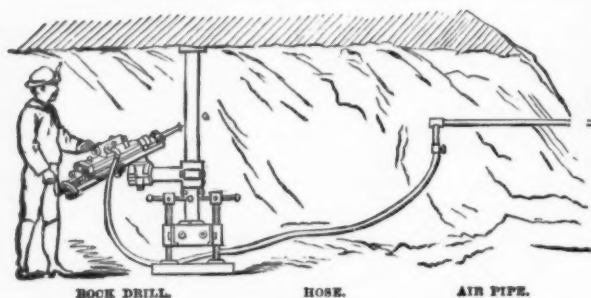
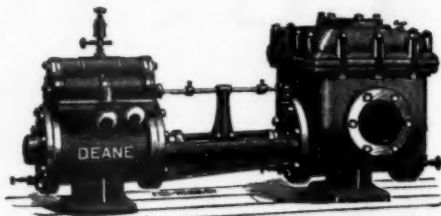
MANUFACTURE
Every variety of Pumping Machinery

VACUUM PUMPS FOR SUGAR WORK, ETC.

IRRIGATION PUMPS ARE SPECIALTIES.

Water Works Pumping Engines for Cities and Towns.

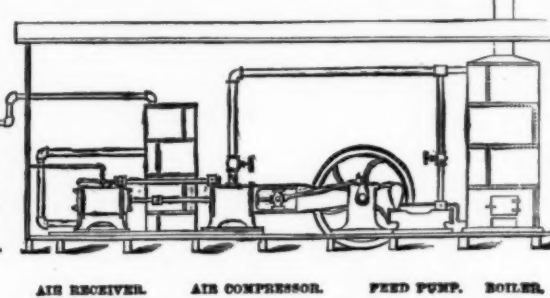
SEND FOR NEW ILLUSTRATED CATALOGUE No. 22.



ROCK DRILL.

HOSE.

AIR PIPE.



AIR RECEIVER.

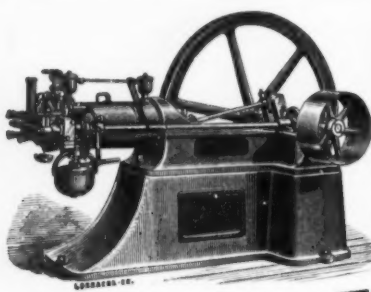
AIR COMPRESSOR.

FEED PUMP. BOILER.

RAND DRILL CO.

23 Park Place, NEW YORK.

Rock Drills,
Air Compressors, and
General Mining Machinery,
Blackrock Blasting Powder,
Blasting Batteries and Fuse.



Over 14,000 in Use.

Otto Gas Engine

30 to 70 per ct. less Gas consumption than ANY other ENGINE.

Working Without Boiler, Steam, Coal, Ashes or Attendance.

Started instantly by a Match, it gives full power immediately. When stopped, all expense ceases.

No explosions, no fires nor cinders, no gauges, no pumps, no engineer or other attendant while running. Recommended by Insurance companies. UNSURPASSED IN EVERY RESPECT for hoisting in warehouses, printing, ventilating, running small shops, &c. Sizes: 1 to 25-horse power.

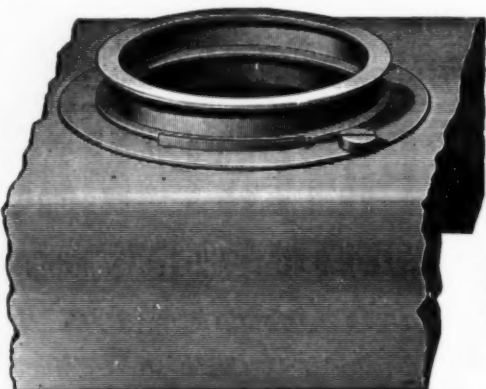
Branch Office, 214 Randolph St., Chicago.

SCHLEICHER, SCHUMM & CO., N. E. cor. 33d and Walnut Sts., Philadelphia.

DOUBLE ADJUSTABLE Spinning Rings.

GEORGE DRAPER & SONS,
HOPEDALE, MASS.

TELEGRAPH ADDRESS AND RAILROAD STATION,
MILFORD, MASS.



	Number of Rings sold.	Number of Rings sold for repairs.
1869.....	6,005	
1870.....	20,258	
1871.....	38,648	
1872.....	94,264	12
1873.....	117,301	
1874.....	168,389	500
1875.....	223,924	963
1876.....	185,319	947
1877.....	270,811	946
1878.....	215,214	3,309
1879.....	336,918	8,007
1880.....	567,860	11,264
1881.....	659,730	8,974
1882.....	636,715	22,515
1883.....	416,500	21,689
1884.....	319,869	25,105
1885, 5 mos.	112,522	12,118
Total number sold in 16 years..	4,390,260	116,349
Total number in use 4,273,911.		

The great durability of our Rings is shown by the fact that we have more rings in use over twelve years old than all we have sold for repairs.

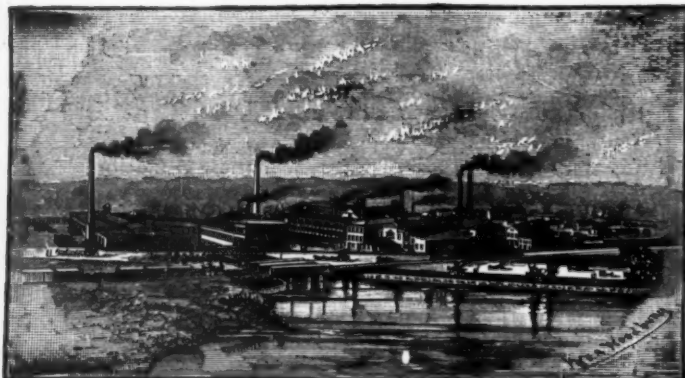
This statement shows unmistakably that a mill once supplied with our rings need think but little of the cost of repairs. As the number sold for repairs is an average of about twenty per cent. of the number sold the tenth year before, the average life of our rings will be at least twelve years.

Do not make the mistake of ordering new frames without specifying Double and Adjustable Rings. While they cost more to begin with, they are much the cheapest in the end, on account of their uniform excellent quality and unparalleled durability.

As an encouragement to use none but the best of Rings, we have decided to reduce the price on and after the first day of January, 1885, of those 1 1/2 inches or less in diameter, without holders and screws, to be used only to take the place of our rings worn out, to 15 cents each.

Washburn & Moen Manufacturing Co., Worcester, Mass.

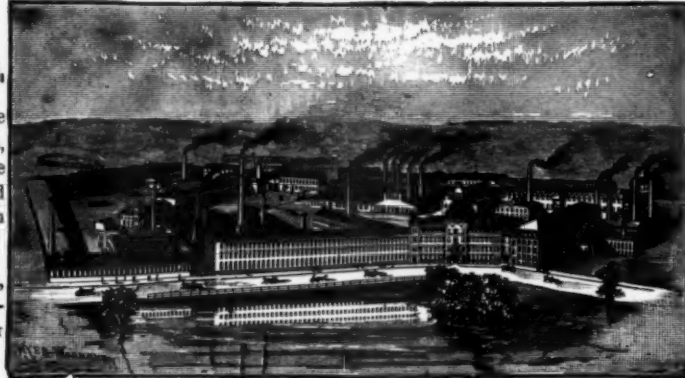
Wire Drawers, and Manufacturers of Iron and Steel Wire of Every Description.



Iron and Steel Telegraph and Telephone Wire.

Patent Steel Wire Bale Ties, Pump Chains, Chain Wire, Steel Wire for Springs, Needles and Drills, Watch Main Springs.

Send for Price-Lists, Circulars and Descriptive Pamphlets on Our Specialties.



NEW YORK WAREHOUSE:
21 Cliff Street,
New York City.

GLIDDEN PATENT STEEL BARB WIRE.

The Best Fence Material in Use.
For Sale by Special Agents and Hardware

Proof against Fire, Wind and Flood.
Dealers in all Parts of the United States.

CHICAGO WAREHOUSE:
107 Lake Street,
Chicago, Illinois.

ADVERTISERS wishing to reach the manufacturers of all classes, mining companies, steel, iron and hardware dealers of the entire South, cannot find a better medium than the BALTIMORE MANUFACTURERS' RECORD. We are always prepared to furnish proof of our claims as to circulation.

The Industrial Interests of Birmingham.

[Special correspondence MANUFACTURERS' RECORD.]

BIRMINGHAM, ALA., Sept. 25, 1885.

Since the order of the State railway commission, directing all the railways doing business in Birmingham, the Georgia Pacific excepted, to put up station buildings within 60 days, there has been little of the sensational sort in the business life of this truly busy town. Steady progress in every department is noticeable, and, although there is nothing yet justifying the term "boom," there is every indication that something of the kind, questionable benefit as it always is, must be expected with the return of better times throughout the country. As far as the local situation is concerned, the times would be considered good enough now were it not for fears that Congress is about to raise the tariff and silver ghosts again, and that the legislature may have some further tinkering to do in the matter of railway legislation. In the latter connection there is a better feeling extant in the State than formerly. The truth that development of natural resources must involve a friendly attitude to outside capital has begun to dawn even upon the strong granger element in Alabama; and the unfortunate results of legislation in Georgia, antagonistic to railways, has perhaps exercised a good influence. In this and in other practical directions the people of Alabama are advancing.

THE IRON MARKET.

The strong upward turn which some of the most sanguine Southern operators looked for, while it has not yet materialized, has given signs that it is not far off and will soon appear, unless deterred by events not apparently now on the cards. The satisfactory condition of the Southern crops, and other favorable circumstances, familiar to readers of the MANUFACTURERS' RECORD, seem to justify the view that better prices and a more active market are to be realized during the autumn. It must be admitted that the better prices are not yet quotable, but there has been such a marked stiffening of the demand during the past week that the leading iron masters of Birmingham are quite well pleased with the outlook. Of the 8 coke furnaces in the district all but one, the Sloss No. 2, are in blast, and the one excepted will probably start up within a month or two, or as soon as the current repairs shall be completed. The output of the 7 furnaces now in operation is about as follows:

Furnaces.	Daily output. Tons.	Weekly output. Tons.
Mary Pratt, 1.....	35	245
Sloss, 1.....	80	560
Eureka, 2.....	80	560
Alice, 2.....	195	875
Woodward, 1.....	80	560
Total.....	400	2,800

COAL MATTERS.

The week has been a quiet one in the coal interests. Mr. H. F. de Bardeleben is figuring a little in the light of a public benefactor in that he is delivering an excellent quality of domestic fuel from his "Henry Ellen" mines, in the Cahaba field, to the good people of Birmingham at \$2.50 per ton. At the mines everything is quiet, and there does not appear to be any prospect of further labor troubles. It is possible that the miners are beginning to realize that their situation is not a very bad one compared with that of the operators. As a matter of fact the coal developments of the district more than keep pace with the consuming power of the region within normal reach of the field. No doubt consumption may overtake production by and by, but it is not impossible that new outlets may have to be found before that desirable point is arrived at. Just now the unpleasant fact is patent that, to a great extent, the Alabama coal field is shut out from its natural market at New Orleans, where Alabama coals should be handled cheaply enough to control the gulf coal trade. As it stands, with freights by rail necessarily high, in comparison with

river charges, the Pittsburgh shippers have the advantage notwithstanding the long haul from Pennsylvania to the Crescent City. To be sure there is a large quantity of coal carried in by the railways. The Louisville & Nashville, the Queen & Crescent, Georgia Pacific, Mobile & Ohio and Illinois Central are all doing their best to meet the situation; but the Pittsburgh buyers have rather the best of the game.

WATER AGAINST WATER.

Several plans have been conceived and formulated to improve this situation. There are hopes that a moderate improvement of the Tombigbee to Tuscaloosa, on the edge of the Warrior field, will bring the Warrior coals cheaply within the grasp of Mobile, and the progressive element in that city is much elated with the idea of one day capturing the Gulf and export coal trade from New Orleans. An effort will undoubtedly be made to secure enough governmental assistance to give effect to this scheme. It is probable that it will be successful in some degree, and that a great deal of cheap coal will find its way to Mobile by water in the future. But the Tombigbee and other streams connecting the coal fields by tide-water, are phenomenally treacherous and shifting, and it is not at all certain that they can ever be made reliable enough to be depended upon to supply Alabama with the needed outlet. On the whole a better prospect appears in connection with the projects for connecting Birmingham with the Tennessee river. As the RECORD has heretofore noted, the Sheffield road is now in hands likely to complete it and that will afford much relief. There is reason for believing that, via Sheffield, Alabama coals can be laid down at New Orleans at figures lower than Pittsburg coal men would care to compete with. The road from Attala on the A. G. S. railway, to Guntersville, on the Tennessee, now under construction, may also prove helpful after the further improvement of the waterway in question.

MOVEMENTS IN CLAY.

It is not settled yet what degree of importance is to be attached to the recent discovery of an apparently superior quality of fire clay a few miles above this city. That will depend largely upon the extent of the deposit. The material itself is identical in appearance with that found on the Pennsylvania side not far from Cumberland, Maryland, and which probably makes the best furnace brick in the country. Many attempts have been made hereabouts to find a clay exactly suited to the demands of the market, but the results have not been satisfactory, and none of the home productions have thus far tested with the article imported at high cost from the East. Should the latest discovery settle the question of local manufacture favorably a considerable industry will be the result. In the matter of pottery clays we are better off. Within easy haul of Birmingham there is a bed of kaolin of large extent, directly on the railway. The quality of the material is said by experts to rank with some of the best European clays, and it is not improbable that one of the leading eastern pottery companies may establish a plant at this point to utilize it. There is a large and rapidly growing crockery market in the Mississippi Valley which should be served on better terms from northern Alabama than from Ohio, the present chief source of supply. G. B. W.

THE Atlanta Capitol has been a remarkable success. Started only about two months ago as an evening paper, it has already secured over 5,200 subscribers. It is one of the brightest and newest papers in the country, and yet is scrupulously careful to avoid everything sensational. It is a credit to Southern journalism. Col. Avery, the editor, has our best wishes for prosperity.

A Prosperous Texas Town.

CORSICANA, TEX., Sept. 21, 1885.

Editor *Manufacturers' Record*:

A few facts regarding this city may be of interest to your readers.

In 1880 our population was 3,350, and the assessed value of our property \$1,009,000. In 1880 our scholastic population between 8 and 16 was as follows: White, 298; colored, 150; total, 448.

In 1885 our population is 6,200. Our last assessed value was \$1,761,320, and the present assessment ought to be when completed, \$1,875,000.

Our present scholastic census is as follows: White, 842; colored, 455; total, 1,297. Out of this number the following cannot read: White, 32; colored, 40; total, 72.

Our city has also an ordinance admitting children between 7 and 16, and of that age we have 73.

Our city has charge of the schools, and the free-school system is in vogue. We have the schools well graded, and 15 teachers and one superintendent in charge. The white and colored schools are kept separate. The schools have a revenue of \$16,000 per annum, derived from city ad valorem tax and from the lease of lands owned by the State and county. With this we employ the best talent 9 months in the year, and appropriate a sinking fund more than sufficient to pay our school bonds at maturity. Our schools are surpassed by none in the State.

Our taxation is 1 per cent., divided as follows: $\frac{1}{2}$ for schools, $\frac{1}{4}$ for water, and $\frac{1}{4}$ for general purposes.

Our city has no floating indebtedness—scrip is at par—every fund having a surplus to its credit. There is a bonded indebtedness of \$30,000, all for school buildings and furniture. The last issue of bonds were sold above par. The interest is paid semi-annually, and there has never been a default in the payment of interest.

We have a water supply and pressure giving all the business portion and a large portion of the resident city absolute protection. Both stand pipe and pump pressure are used. The fire department is well equipped. The insurance rate within the fire limits is \$1.40.

Since 1880 the following manufacturing establishments have been erected: A large cotton compress, oil mill, flour mill and ice factory. The city will soon be lighted by electricity.

We are anxious to have manufacturing interests come among us. Any line will do well here, and I shall be glad to correspond with any of them desiring to make investments.

We are located on the main lines of the Houston & Texas Central and the Texas & St. Louis Railroads, crossing at right angles, giving us a freight rate equal to any in the State. The H. & T. C. R. R. has its auxiliary round-house here, employing about 70 men. The flour mill has a capacity of 300 barrels per day; the ice factory 15 tons per day, with cold storage. R. S. NEBLETT.

A Railroad to St. Mary's, Ga.

ST. MARY'S, GA., Sept. 21, 1885.

Editor *Manufacturers' Record*:

Shortly after the close of the late war between the States, mills for the manufacture of lumber were erected here, but failed in January, 1883. Since that time many of our people have been compelled to leave and labor elsewhere, to support their families living here.

In a few weeks, the East Georgia & Florida Railroad, with terminal points at Jacksonville, Fla., and Augusta, Georgia, via St. Mary's, Georgia, will be started. It will be built from Hart's Road, Florida, to Jesup, Georgia, first, and thence to Millen, Georgia, placing us in connection with the entire Georgia and Florida system of roads. We will be from three to

four miles nearer the entire Florida system than Fernandina. We will be about twenty-seven miles by rail to Jacksonville, Fla. It will be twenty-nine miles nearer to Jacksonville via St. Mary's from Savannah, than the present line, so I have been informed by an engineer.

Our city adopted a very liberal policy to secure the road, and will continue on that line, as the opposing elements have been harmonized. We have the same bar that Fernandina has, a beautiful and deep river, and a commodious and safe harbor, and a splendid frontage. Including North River, bounding the city on the east, and emptying into the St. Mary's at a point about five miles from the bar, it is estimated that six miles of frontage could be utilized.

It is universally admitted that there is no healthier city to be found in this country. And we have very fine drinking water, which is so conducive to health. Disinterested parties who have been inspecting the situation, say that they think that our opportunities will be very great, as we will be on the direct and shortest route connecting the great Georgia & Florida Railroad systems. We will tap the Florida system at Hart's Road, eleven miles from Fernandina and twenty-one miles from Jacksonville; and tap the Brunswick & Western twenty-eight miles from Brunswick, and connect with the Savannah Coast Line and the East Tennessee, Virginia and Georgia road at Jesup, and finally, the Georgia Central at Millen, and on to Augusta, with the Richmond & Danville; so that after being out of the railroad world for so many years, we will be quite in the world when our road is completed, which will be next year. We expect to connect with the Florida system in January. J. M. ARNEW, Mayor.

A Timely Caution.

There are signs that the southward march of hundreds of operators is again beginning. They will find plenty of victims, but if the press all over the South will put the people on their guard, none but the most ignorant or careless will suffer serious loss, and a large portion of these pests of society will be forestalled and many of them will receive the punishment they so richly deserve. A little experience and a little close observation will enable almost anyone to distinguish between the deserving and the undeserving. It is a good deal better for one to be over-cautious when dealing with strangers than to have too much confidence in human nature.—Savannah News.

The above advice is well worth heeding. There is no doubt but that the South is to become the seat of operations of many unprincipled speculators. The development of the South, its increase in wealth, and the attention it is now everywhere attracting, will make it a most inviting field for sharpers. It would be just as well for the Southern people to closely investigate all enterprises to which they are invited to contribute money before handing in their subscriptions. If the enterprise is of the right character a careful investigation will be preferred by its projectors.

NOBLE, BROS. & Co., of the Anniston Car Wheel Works, Anniston, Ala., have just completed a steam forge with two trains of rolls for making the axles on which their car wheels are fastened. The capacity of this forge is 60 tons of car axles per day.

MINING NOTES.

By T. K. BRUNER, Salisbury, N. C.

FRAZIER MINE.

Work at the Frazier Mine, in Mecklenburg county, is unchanged; but as the option is not far from expiring, the explorations are not pushed with the vigor desirable. The ore thus far mined has been of a superior character, and is free milling.

THE DUNN MINE

in Mecklenburg county has been allowed to fill with water. It is hard to conjecture why, since the ore taken out of it is of fair milling grade.

THE RUDISILL AGAIN.

Probably the most famous mine in Mecklenburg county is *in statu quo*. Funds are lacking for pushing underground work; the ore found in the new shaft and levels on Brush Hill (the north end of the mine), was good, but not abundant. It is probable that if skilled superintendents, bosses and miners are employed when work is resumed, more satisfactory developments will result. The north end of the mine will bear skilled investigation.

CAPP'S HILL MINE,

also in Mecklenburg county, is filled with water again, owing to legal matters, and not on account of lack of ore; it is reported that it is to be opened soon. It should be, for it is among the best and most reliable mines of that county, and only needs capital and deep work to show something good.

HAILE MINE,

just over the South Carolina border, is doing as usual; its output is very steady, and the news from it is distressingly monotonous; would there were many more like it. They have an enormous dump of reserve ore ready for the new mill when it goes to work.

THE BREWER MINE,

also in South Carolina, is moving steadily along, with no changes of importance.

STRUCK IT RICH.

C. C. Wade, Esq., of Troy, Montgomery county, N. C., has just struck a very rich free milling gold vein on Little River. The ore is quartz, in talco-argillaceous slate formation, and does not show but little free gold to the eye, but produces wonderful results in the pan. It is worth several hundred dollars per ton, and is perfectly free milling. The vein is two and a half to three and a half feet wide, and has been opened at several places, the deepest being twenty feet, where splendid ore is found. Montgomery county is the most noted locality for free and surface gold in North Carolina, and this new find of Mr. Wade's bids fair to prove a veritable bonanza.

MINT ASSAYING.

For a long time the people of Georgia and the Carolinas have been depending largely on the mints for general assaying, but the recent order from the United States Bureau of Mints, forbidding assaying of ores in all the mints and assay offices of the government, must prove an inconvenience. The order is most likely a temporary one, and will doubtless be rescinded as soon as proper information can be furnished the bureau. Some reform was undoubtedly needed, but this order is rather sweeping. The order does not affect assaying of bullion or any of the regular work of any of the stations.

HUNTSVILLE GOLD MINE.

In reply to an inquiry as to the facts in regard to the Huntsville Gold Mine, figuring recently in the press as a new bonanza, the following facts are submitted: There is an abandoned shaft, or shafts, near Huntsville, in Yadkin county, which were worked for gold by inexperienced men, with crude implements, just before the war of the Confederate States. Specimens were sent out in all directions (at that time) by these men,

who continued to work and reported the mine very rich. The war put an end to operations, and nothing has been done since except to send specimens out at various times. The property is owned by a family named Gross, but has been placed in the hands of Dr. J. H. Wolff, Yadkinsville, N. C., for sale or lease. This fact may, and most probably does, account for the article going the rounds of the press; and it must have emanated from an enthusiastic pen. Further investigations are in progress, and if anything of importance results, the RECORD will give the facts to the public.

CRANBERRY IRON.

Large quantities of pig, and about ten car loads of ore, are being shipped daily from this mine.

Of this Cranberry iron ore, the late Prof. W. C. Kerr, State Geologist of N. C., remarks: "The softness and toughness of this iron is

Scroll Saw.

The Scroll Saw, of which the accompanying cut is an illustration, is designed for both heavy and light sawing.

The frame is heavy and specially constructed for strength and firmness. The table is composed of alternate strips of cherry and black walnut, securely glued together. The forged steel cross-head below the table runs in adjustable gun-metal slides. The manufacturers say of this machine that: "The strain is without doubt one of the most simple and durable on the market. It holds the saw at an even tension at all points of the stroke. It has but one straight strap, on which there is no friction; the same strap will last for years, a fact that will be appreciated by parties using other strains on which the straps are continually breaking, causing much annoyance and loss of time.



SCROLL SAW.

very remarkable; and its tensile strength, as tested by the United States Ordnance Department, ranks with that of the best irons known. The blooms from the Cranberry forges have been extensively used in Baltimore for boiler iron, and commanded fifteen dollars a ton above the market. In quality it is unsurpassed by any iron in the world. And in regard to quantity, the bed much exceeds the great deposits of Missouri and Michigan, and, at least, equals anything in the Champlain region."

The supply is by no means confined to Cranberry, as there are many deposits—some traceable for six miles in tabular extent—yet untouched, waiting for the miner's pick.

If you are not already a subscriber to the BALTIMORE MANUFACTURERS' RECORD, send us \$3 and you will receive it regularly for one year, or six months for \$1.50.

The tension on saw is easily regulated by means of small hand wheels at the base of the steel coil springs at each side of the strain. Adjustable stay rods are attached to the frame of the strain to hold it firm and true when put up. Carefully and well seasoned hickory is used for pitman and wooden part of strain. The machine has a $4\frac{1}{2}$ inch stroke, and can be run at a very high rate of speed without jarring in the least. The combined shifter and brake is attached to the machine convenient to the foot of the operator and takes effect instantaneously. The loose and tight pulleys are 6x3, and should run from 1,200 to 1,400 revolutions per minute." For prices and further particulars address Cordesman, Meyer & Co., 170 and 172 West Second street, Cincinnati, Ohio.

THE King Bridge Company have contracted to build five iron bridges at Giddings and one at Schulenberg, Texas.

Prosperous Times at Birmingham.

BIRMINGHAM, ALA., Sept. 21, 1885.

Editor Manufacturers' Record:

In speaking to a directory man recently, he assured me that he fully expected to be able to place at least 22,000 names on the Birmingham directory this fall,—an increase in one year of over 4,000. We have a great building boom on hand now, the value of houses, stores, as at present being built, totals up to half a million dollars, and one furnace is being built at a cost of \$250,000. Contractors of every class are doing well, and good men are scarce in nearly all trades.

All furnaces, foundries, machine shops and the rolling mills, are running on full time, only one furnace being out of blast for repairs and alterations. The Elyton Land Company are finishing a bridge for double team car lines and foot ways—over the railroad tracks connecting the Highland Avenue Railroad with the business portion of the city. The Birmingham City Railroad, whose stock changed hands lately, some Nashville capitalists becoming the purchasers, are remodeling the system and extending the lines in several directions.

The city itself is doing a vast quantity of work in grading the streets, repairing the sidewalks and laying furnace stays down on all the thoroughfares. The sewerage is also receiving attention, and large contracts are being let, and we will soon have it said of us, that Birmingham could not be healthier.

Railroads to center here are projected from no less than five different directions; and there is every probability of three at least being built,—one already being under construction—the Birmingham & Sheffield Railroad. Another line to Memphis is being surveyed. This will go from here direct to Holly Springs, Mississippi, and connect with a road now being built to Memphis. A line is projected to Goodwater, in this State, a distance of sixty miles, and will connect us with Columbus, Ga. The Georgia Pacific Railroad have now fully determined to close the gap at present existing on their line, and will give us direct connection with Columbus, Miss.

The Warrior Coal Fields Railroad is also very likely to be built. This line will run from here in a northeasterly direction. Of all these lines, the certainty of the building of the Georgia Pacific extension, the B. & S. R. R., and the B. & M. R. R., is almost assured.

The most important of these enterprises is certainly the Memphis line, which will pass for sixty miles through the finest coal field in the South, and will cause an interchange of our iron and coal for the provisions and grain of the great Northwest. At Memphis it will connect with Kansas City in a direct line, and thence to the Pacific. We are certainly on the eve of a most prosperous era; and with the great business depression that has been felt all over the union, this country has been steadily going forward, not being influenced by any outside occurrences. No city ever was, and no city ever will be, built on surer foundations for prosperity throughout all time, than is Birmingham, Alabama. VERITAS.

AN "Illustrated Catalogue of Machine Tools, made from Newly-Designed Patterns" has been issued by Messrs. E. Gould & Eberhardt. In the introductory Messrs. Gould & Eberhardt say: "Having during the last six months added largely to our list of regular tools, we were obliged to issue a more complete list of the tools we build, and so present this new edition, comprising the leading tools we are now engaged in manufacturing." Full descriptions of the many tools made by this well-known firm are given, and also many particulars that will be of interest to users of machine tools.

CONSTRUCTION DEPARTMENT.

WE PUBLISH, every week, a list of every new factory, of whatever kind, projected anywhere in the South; every railroad undertaken, and every mining company organized. This information is always fresh, and, by enabling manufacturers to correspond with the projectors of such enterprises before their supplies of machinery have been purchased, is of great value. Manufacturers will find it to their interest to read this department carefully each week.

ALABAMA.

An English syndicate, it is reported, has purchased from B. Friedman, Tuscaloosa, Alabama, over 50,000 acres of coal and iron lands which they will develop.

John P. Streety & Co. have nearly completed their large ginnery and mill at Hayneville, Alabama.

Richard Coulter, of Greensburg, Pennsylvania, is president, and Adam Glass, of Mobile, Alabama, is vice-president of the Penn-Mobile Coal Company, reported last week as organized in Mobile, Alabama. A large body of coal lands has been purchased at a cost of \$100,000, and the company will at once put in a large coal mining plant.

The Birmingham Iron Works, Birmingham, Alabama, has received the contract for building the Talladega, Ala., Water Works, to cost \$20,000.

A new mill has been put up at Pushmataha, Alabama.

Bland & Diller, Selma, Ala., have established a broom factory.

W. G. Wharton, of Montgomery, Ala., president of the Wharton Company Mills, previously reported, is receiving bids for the erection of their mill at Birmingham, Ala.; capital of the company is \$40,000.

Oliver Weiser, of York, Pa., previously reported as intending to build a chain factory in the South, has, with J. E. DuBois, of Alabama, secured a site 200x360 feet, in Birmingham, Ala., on which they will begin at once the erection of a large factory; about \$10,000 will, it is reported, be invested.

ARKANSAS.

The Batesville Mining Company, Batesville, Ark., has been organized.

FLORIDA.

A company has been formed at Altamonte, Fla., to manufacture jellies. Work on factory has commenced.

Another saw mill will probably be erected at Altamonte, Florida.

Roach & Davis are erecting a saw mill at Cotton Plant, Fla.

GEORGIA.

The Macon, Ga., Gas Light & Water Company have applied to have their charter amended, giving them power to furnish electric lights.

White & Beck will start a steam laundry in Atlanta, Ga.

The contract has been let for the erection of a three-story brick hotel in Monroe, Ga.

T. H. Cheek, Marietta, Ga., who was reported as contemplating building a flour mill in Chattanooga, writes us: "The notice in the Chattanooga papers is false, and was published without my knowledge."

The Columbus Iron Works Co., Columbus, Ga., have received contract to furnish machinery for the Gorrie Ice Co., Savannah, Ga., previously reported.

Work on the East Georgia & Florida Railroad, to run from Hart's Road to Jesup, Fla., will, it is reported, be commenced at once.

R. E. Whitehead, Cartersville, Ga., has purchased a mill which he will repair and operate.

It is reported that a cotton compress, to cost about \$10,000, will be built in Columbus, Ga., by stockholders of the Florida Railroad & Navigation Company, and the Merchants & Planters Line of Steamers.

Bills have been introduced into the Georgia Legislature to incorporate the Cincinnati, Georgia & Florida Railroad Company and the Albany, Preston & Columbus Railroad Company.

The contract for erecting a factory for the Coweta Fertilizer Company, Newnan, Ga., has been let to the R. D. Cole Manufacturing Company of that place.

The capital stock of the Columbus Barrel Manufacturing Company, previously reported as organized in Columbus, Ga., is \$5,000.

J. R. Irwin is erecting a steam grist mill at Chappells, Ga.

George M. Snodgrass, of Texas, is in Athens, Georgia, with a view to constructing a street railroad.

M. L. Flowers & Co., Rome, Ga., will increase their capacity for manufacturing well fixtures.

KENTUCKY.

J. K. Sroufe has received the contract for building gas works for the Citizens Gas Light Company, Maysville, Kentucky.

Samuel S. Brown, Chris. Bonher and Jordan Giles have incorporated in Louisville, Ky., the Western Contract Company, capital stock \$25,000, to build railroads, bridges, etc.

Lawrence Bradley, Timothy Driscoll, John M. Martin, Jr. and Samuel D. Tompkins have incorporated in Louisville, Ky., the Cœur d'Alene Water and Mining Company, to do a general milling and mining business in Idaho; capital stock to be \$250,000.

D. Boulis and Isaac Johnston have established a saw mill at Oakland, Ky.

Reutlinger & Eisfelder, Henderson, Ky., whose brewery was reported last week as damaged by explosion, are repairing it.

Jacob Flegle has sold his mill at Woodville, Ky., to House & Matlock, and is building a new mill at Arlington, Ky.

The Maysville Cotton Mills, Maysville, Ky., are being improved, and new boilers put in.

The Monarch Novelty Company, has been incorporated in Covington, Ky., by F. H. Anderson and M. G. Trueman, to manufacture and sell patent articles and novelties. Capital stock \$20,000.

The Falls City Varnish Company, Lewis Collins, president, Louisville, Ky., has been organized to manufacture varnishes, driers, etc. Capital stock \$10,000.

The Louisville Water Co., Louisville, Ky., have let the contract for building an embankment for a pumping station to Jacob Bickel at \$15,500.

LOUISIANA.

Foster & Son, New Orleans, La., will build a saw mill.

Ballentine & Rogers, New Orleans, La., have received contract to build the railroad from Vermillionville to Baton Rouge, La., previously reported.

L. D. Martin is building a rice mill in St. John's Parish, Louisiana.

MARYLAND.

The Baltimore Pulverizing Co., H. G. Penniman, manager, are erecting at the corner of Philpot and Mill streets, Baltimore, pulverizing works to pulverize all classes of minerals, phosphates, cement rock, gold and silver ore, baryta, limestone, &c., &c., for the trade generally. The machinery is now being put in position.

The Western Maryland Telephone Company has been organized in Frederick, Md., by J. W. Downey, of New Market, Md., M. P. Wood, of Monrovia, Md., and others, to do a telegraph, telephone and electric light business. Capital stock \$100,000.

W. H. Nile, W. Cornell Jewett, D. D. Morrison, Thomas C. Basshor and Geo. M. Booke have incorporated the Washington & St. Mary Railroad Company; capital stock \$4,000,000, to build a road from Point Lookout, Md., to the District of Columbia.

MISSISSIPPI.

The Aberdeen Fertilizer Oil & Manufacturing Co., Aberdeen, Miss., the organization of which was previously reported, we are informed, have commenced building an oil mill.

The Louisville, New Orleans & Texas Railroad Company, are surveying a road to run from Lola to Glendale, Mississippi, which will, it is said, be constructed at once.

Contracts for building 70 miles of the Yazoo & Mississippi Valley Railroad have been let as follows: Sewell & McPherson, Boonesville, Mo., 30 miles; J. C. Neely, Boxdell, Ky., 10 miles; J. H. Bethune, Charleston, Mo., 18 miles, and G. M. Gardy, Springfield, Mo., 12 miles.

NORTH CAROLINA.

It is reported that the Altamahaw Cotton Mill, Company Shops, N. C., will put in additional machinery.

The Greensboro Gas Company, Greensboro, N. C., has built a new gas holder at a cost of about \$6,000.

There is a prospect of the establishment of another tobacco factory at Raleigh, N. C.

It is reported that a tobacco factory and a warehouse are to be established at Wilson's Mills, N. C.

Sides & Spough, Winston, N. C., have purchased in Mount Airy, N. C., ground on which they will build a saw and planing mill.

W. H. Jacobs, Smith's Creek, N. C., has sold his steam saw mill to Kugler & Miner, Washington, N. C.

Parties are corresponding with the citizens of Washington, N. C., relative to establishing sumac mills there.

James Gamble, president of the Charlotte, N. C., Water Works, has decided to build another reservoir.

Frank Coxe, of Philadelphia, Pa., H. C. Eccles and Josiah Asbury of Charlotte, N. C., propose to erect in Asheville, N. C., a large and costly hotel.

Mr. Murch, of Maine, has the contract for furnishing a large amount of dressed granite to the city of Cincinnati, and expects to secure a large part of it in or near Asheville, N. C.

J. P. Verrel, of Philadelphia, contemplates the erection of a cotton compress in Raleigh, N. C., by next season.

Efforts are being made to establish a tobacco factory in Waynesville, N. C.

TENNESSEE.

Fay & Eichberg, Atlanta, Ga., have received contract for erecting a \$25,000 school building in Nashville, Tenn.

Furnace No 1, of the Tennessee Coal, Iron & Railroad Company, at South Pittsburgh, Tenn., has been blown out, and the plant will be remodeled and capacity increased.

Frank Evans is in Kingston, Tenn., looking for a suitable location for establishing a tannery.

The Columbia Pump Factory, Columbia, Tennessee, will put in additional machinery to double their capacity.

The Electric Light Company of Chattanooga, Tenn., will put in a new engine and dynamo and make other improvements.

J. R. Ryan has received the contract for building a convent at Chattanooga, Tenn., to cost about \$12,000.

J. Benjamin of Cleveland, Ohio, is in Chattanooga, Tenn., prospecting with a view to locating there a large basket factory.

The capital stock of the Schuyler Electric Light & Power Co., Knoxville, Tenn., previously reported, is \$60,000. S. P. Evans is president, and John C. Houk, secretary and treasurer.

Thos. E. Jones & Sons, Hillsboro, Tenn., previously reported as building a saw mill, expect to put up a flour mill next spring.

The flour mill, previously reported as to be built at Sweetwater, Tenn., by the Sweetwater Mill Co., will cost, including warehouse, \$35,000.

W. M. Cassetty & Co., Nashville, Tenn., have lately established a factory for manufacturing lubricating and other oils.

The Chattanooga Foundry & Iron Pipe Works, David Giles, president, contemplate enlarging their works in Chattanooga, Tennessee.

G. O. Hildebrand, Tullahoma, Tenn., will manufacture sashes, doors, &c.

TEXAS.

D. C. Robison, Bloomfield, Texas, contemplates moving his mill to Burns City.

William Annesser, of Ottoway, Ohio, has purchased the old Schooler mill property in Fort Worth, Texas, for \$6,000, and will erect a large flouring mill to cost \$30,000.

John Metzger, of Chicago, is in Denison, Texas, with a view to starting an ice factory, and will, it is said, begin work soon.

The Denton Mill & Elevator Co., Denton, Texas, are building a large iron-covered warehouse.

A citizen of Atlanta, Texas, has leased gold land, and will erect a large crusher and smelter.

The Ahrenbeck Oil Mills, Brenham, Texas, have been sold to Sampson Heidenheimer, of Galveston, for \$38,500.

Jot. Gunter, Dallas, Texas, will erect a three-story brick building 50x100 feet.

The D. J. Anthony Street Car Co., will build a street railroad in Terrell, Texas.

The Denison Mining and Manufacturing Co-operative Association has been chartered at Denison, Texas, to mine coal. Capital stock \$10,000.

The Alliance Milling Co., Denton, Texas, reported as chartered last week, will build a flour mill with daily capacity of 100 barrels.

P. J. Butler, Dallas, Texas, has received the contract for erecting a two story building, 60x70 feet, at \$13,000.

G. L. Franklin, Lampasas, Texas, previously reported as preparing to develop coal property, has organized a coal mining company. Will shortly commence mining.

Scott & Youree, Denison, Texas, contemplate establishing an ice factory at that place, and are negotiating for machinery.

LOCKWOOD, GREENE & CO.

MILL ENGINEERS

Office, 65 Westminster St., Providence, R. I.

Carefully prepared plans, specifications and estimates furnished for the construction, equipment and organization of new mills and the revision and improvement of old.

The incorporators of the East Dallas Water Supply Co., previously reported, are W. B. Wright, W. H. Gaston, J. B. Simpson, T. L. Marsalis and T. J. Oliver.

Frank Reast will establish a grist mill in Denison, Texas.

VIRGINIA.

The Atlantic Iron Works, Norfolk, Va., reported last week as sold, were the old works of that name located near the city, and not the Atlantic Iron Works, of which W. A. Anderson is president. These works will probably be enlarged to meet increased business.

John S. Garber has started a spoke and handle factory at Sangersville, Va., and will add more machinery to increase his output.

P. L. Terry & Co., Roanoke, Va., contemplate enlarging their tobacco factory.

Mineral lands in Alleghany county, Va., have been leased by Pennsylvania capitalists, who will shortly begin mining.

M. P. O'Hern, Waynesboro, Va., will work manganese deposits on his land.

WEST VIRGINIA.

Fred. Balcom, of 234 Broadway, New York; William J. Smith, of Baltimore; and E. A. Gillispie, George A. Deleree and Walter A. Deleree, have incorporated in West Virginia, to mine coal, the Wolf Creek Coal Company. Capital paid up, \$100,000. Will mine coal in Alabama. Fred. Balcom, 234 Broadway, New York, can give particulars.

The Grafton Gas Company, Grafton, W. Va., are enlarging and improving their works at cost of \$2,500.

It is reported that a rolling mill will be erected in Huntington, W. Va., and that the money will be furnished by C. P. Huntington, of New York.

Henry V. Thompson, representing a canning factory at Madison, Indiana, is looking for a location for it somewhere in the South.

BURNED.

Gin house of Adeline Rutland, Lancaster, S. C.

J. M. McDaniell's gin house, at Modoc, Ga.

Hornday & Mitchell's distillery, near Tullahoma, Tenn., damaged badly by explosion of mill stone.

Saw mill of W. D. Kilby, on Alligator bayou, Lee county, Ark.; loss \$5,000.

Flour and corn mill of O. P. Gibson, six miles from Shelby, N. C.; loss \$1,500.

F. Fabel's Sons soap factory, Louisville, Ky., damaged \$15,000 by boiler explosion.

J. L. Blainie's large mill and gin, at Greenville, Texas.

Johnson & Caldwell's gin, at Hillsboro, Texas; loss \$3,600.

Morman Pope's saw mill, in Crockett county, Tenn.

Flour and saw mill of Coleman Bros., Mountain Cove, W. Va.; loss \$5,000 to \$6,000.

Gin of J. McDaniel, McCormick, S. C.; loss \$1,800.

The saw mill of N. McGill, Greensburg, W. Va., has been destroyed by boiler explosion.

The cotton gin and grist mill of John S. Wimberly, St. George's, S. C.

An Oil Mill.

ABERDEEN, MISS., September 14, 1885.

Editor Manufacturers' Record:

There is no oil mill in operation here as yet, but the Aberdeen Fertilizer, Oil & Manufacturing Company have commenced building one.

C. A. MCKINON.

Building a Planing Mill.

NEWPORT, KY., September 23, 1885.

Editor Manufacturers' Record:

We are erecting a planing mill, 60 feet front by 80 feet deep, three stories high, brick.

JOS. K. STONE.

Will Build a Saw Mill.

MT. AIRY, N. C., September 22, 1885.

Editor Manufacturers' Record:

I am going to put up a saw mill in Patrick county, six miles from Mt. Airy; it will be run by Robberts & Siceloff.

L. S. SICELLOFF.

A Grist Mill.

MILBORO DEPOT, VA., Sept. 22, 1885.

Editor Manufacturers' Record:

We are going to run a planer and other wood-working machinery and a grist mill at this place.

GILLESPIE BROS.

The Atlantic Iron Works.

NORFOLK, VA., September 23, 1885.

Editor Manufacturers' Record:

I must thank you for yours of the 21st, and in reply will state that the sale you have reference to was the real estate of the old Atlantic Iron Works in Norfolk county, Va., of which the machinery was all sold several years ago. The Atlantic Iron Works, Norfolk City, Va., W. A. Anderson, proprietor, are still blooming, and full of activity, so much so that our trade is calling for more room to accommodate it. W. A. ANDERSON.

A \$12,000 Flour Mill.

LIBERTY, VA., September 26, 1885.

Editor Manufacturers' Record:

The Messrs. Tate Bros., of this place, are completing their new flouring mill at a cost of about \$12,000 with the patent roller process.

MATTHEWS & WRIGHT.

A \$250,000 Coal Company.

MOBILE, ALA., September 24, 1885.

Editor Manufacturers' Record:

The Penn-Mobile Coal Company organized this day; capital \$250,000; mines situated in Walker county, Ala.; business office and location of corporation Mobile, Ala.; President, Richard Coulter; Vice President, Adam Glass; Secretary, Geo. H. Huff. Directors, J. W. Burke, Richard Coulter, A. W. Jones, Adam Glass, Geo. H. Huff. Will engage in mining coal.

Machinery Wanted.

TALLADEGA, ALA., September 23, 1885.

Editor Manufacturers' Record:

We have bought the Lide Red Ochre Mines, and have also bought an engine, but having had no experience in grinding the material we are at a loss to know what kind of a mill is best adapted to our wants. We are now investigating this matter. Would be glad to have manufacturers of mills for this purpose correspond with us. The material is very fine and easily crushed. As soon as we are fully in operation (which will be as early as we can obtain the right kind of machinery) we want to make our output run to about ten tons per day of ground red Ochre barreled and ready for shipment. We also want information in regard to barrels, as it will require about seventy per day to contain our product. SIMMS & SMITH.

\$20,000 for Machinery.

LAGRANGE, GA., Sept. 25, 1885.

Editor Manufacturers' Record:

We shall refit our mill for sheetings, shirtings and drills, and begin work in short time. We shall spend at least \$20,000 in improvements. JOHN L. ROBERTSON,

Pres. Troup Factory.

Developing Coal and Ore Property.

DAISY, TENN., September 27, 1885.

Editor Manufacturers' Record:

We are building 50 coke ovens and will build 100 more; built new railroad, incline and chutes; will employ 150 men; cost so far of new works will be \$35,000; the cash outlay has been about \$100,000. Our coal coke will analyze 89% fixed carbon; ash 6%; sulphur 89-100. We have opened a quarry of superior white sandstone, excellent for building and trimmings.

We are now opening an iron ore mine within $\frac{3}{4}$ of a mile, of red fossiliferous ore, 4 to 5 feet thick; runs 37 to 45 per cent.; needs no flux, as it contains limestone enough; makes a superior open fire iron. We have also about 5 feet of soft red ore very rich.

Near the Hiwassee River we have a very fine deposit of kaolin, 17 to 21 feet; said to be number 1 by potteries, and a quarry of red and chocolate mottled marble which is near water transportation. We will be glad to correspond with parties who wish to use or buy either.

Our country invites capital, and large investments can be readily made with handsome profits.

TABLER-CRUDUP COAL & COKE CO.

Enlarging Gas Works.

GRAFTON, W. VA., Sept. 28, 1885.

Editor Manufacturers' Record:

We are putting in a gas holder at an expense of about \$2,500, our old one being insufficient to supply our consumers. The Wheeling Gas Works are putting in a new holder at an expense of about \$44,000.

C. O. NEWLON, Supt. Grafton Gas Co.

New Fertilizer Factory.

SANFORD, FLA., Sept. 22, 1885.

Editor Manufacturers' Record:

We will erect a new factory and put in additional machinery. Shall build the coming winter.

HOME FERTILIZER CO.

A Coal Mining Company.

COVINGTON, KY., Sept. 28, 1885.

Editor Manufacturers' Record:

The Kentucky Coal Mining Association has been organized, and will commence running as soon as possible—we cannot tell how soon, but think we will be able to commence before the new year. J. W. GILBERT.

Machinery Wanted.

BIRMINGHAM, ALA., Sept. 23, 1885.

Editor Manufacturers' Record:

We will commence the erection of a chain factory immediately; size of works 40x150 feet. The estimated cost and operation of same will be \$10,000. Will want to purchase steam engine and boiler, anvils, blast power, "chain" link winder and cutter. Would be pleased to have prices on any and all of machinery.

OLIVER WEISER,

Supt. Birmingham Chain Works.

Doubling Varnish Works.

LOUISVILLE, KY., Sept. 28, 1885.

Editor Manufacturers' Record:

Our works were totally destroyed July 8. On July 22d we were sufficiently rebuilt to begin shipments. Since August 1st our business has improved so that we have concluded to add still other buildings and increase our capacity almost double. Since the fire our buildings are built of brick and iron, and our improvements will cost about \$8,000. New buildings half done; boiler, engine, mixing machines, etc., on the ground.

LOUISVILLE ASPHALT VARNISH CO.,

LEWIS COLLINS, President.

Building New Kind of Compresses.

HUNTSVILLE, ALA., Sept. 28, 1885.

Editor Manufacturers' Record:

We have built our first compress at Huntsville, Alabama, which has been sold to Scruggs, Landman & Co., cotton buyers and warehouse men at this place, who will operate it for compressing all cotton shipped from this depot. We find that we have, in this structure, ample power to compress the cotton bales to any required size. Our experimental test was made here, with 6-horse farm engine, 75 lbs. steam; bales of average weight—500 lbs. Breadth from 48 to 57 inches were compressed to 13 $\frac{1}{2}$ inches. The power is practically unlimited, and only requires strength of structure to perform the work of the most ponderous and costly steam compresses in use. The company was incorporated as the Curry Press Company, with authorized capital \$1,000,000. At present doing business at Huntsville, Alabama. The company are engaged in building cotton compresses, plantation cotton presses, portable and stationery hay presses, fruit, cheese, tobacco, oil and other presses. These are inventions of B. J. Curry, of Huntsville, Alabama. The company will increase its force and capacity very soon to meet the demand already indicated for cotton compresses, and hay and other presses in their line.

CURRY PRESS CO.

A \$100,000 Mining Company.

NEW YORK, N. Y., Sept. 29, 1885.

Editor Manufacturers' Record:

The Wolf Creek Coal Co. has been organized, with a paid-up capital of \$100,000. Mine situated at Wolf creek, Walker county, Ala.; capacity 100 tons daily; mine now in working order.

FRED. BALCOM,

234 Broadway.

A \$10,000 Varnish Company.

LOUISVILLE, KY., September 28, 1885.

Editor Manufacturers' Record:

This company just organized, will begin manufacturing varnishes for manufacturers of agricultural implements, furniture, and clear varnishes generally, together with driers. Capital stock \$10,000. Officers and stockholders about the same as in the Louisville Asphalt Varnish Company.

FALLS CITY VARNISH CO.,

LEWIS COLLINS, President.

A \$30,000 Flour Mill.

OTTAWA, OHIO, Sept 28, 1885.

Editor Manufacturers' Record:

I will build at Fort Worth, Texas, a 125-barrel all-roller flouring mill. The mill will contain 14 Seth Gray's noiseless belt roller mills. It is to be the finest mill in the State of Texas. Work has already been commenced. It will cost about \$30,000.

WM. ANNESSER.

THE Greensboro Patriot, Greensboro, N. C., has published an 8 page special issue, showing up the growth of that town; and proving that Greensboro is making fine progress. The Patriot is to be commended for its enterprise, for it very largely depends upon the papers of any city or town to make its advantages and attractions known to the world.

ADVERTISERS wishing to reach manufacturers of all classes, mining companies, steel, iron and hardware dealers of the entire South, cannot find a better medium than the BALTIMORE MANUFACTURERS' RECORD. We are always prepared to furnish proof of our claims as to circulation.

Notes From Upper West Virginia.

Among the aspirants for favors in the steam coal markets the last three years probably none have been more successful in getting a good footing than the West Virginia Central Company, operating at Elk Garden. This Elk Garden field is the thickest soft coal seam mined anywhere in the United States, being fourteen feet thick, all of which is mined out and shipped. It is located in Mineral County, West Virginia, fourteen miles from Piedmont, on the north branch of the Potomac River.

Through the personal exertion of Senator Henry G. Davis, the company was organized on the 25th of June, 1881, under a charter of the State of West Virginia, authorizing them to construct a railroad along the waters of the north branch of the Potomac River, to a connection with any other railroad in the State, and also to buy and sell real estate, without limit, and to mine coal, iron ore and other minerals, and to manufacture timber. The company own along and near the line of this road, 29,069 acres of land holding coal and 3,175 acres of iron ore lands, and has mineral rights on 1,743 acres of coal lands and 3,664 acres of iron ore lands. Under this charter they soon completed eleven miles of the road to Shaw, from which point a branch was built three miles up a ravine to Mineville, where the two large tipples for loading coal are located. The road is now up to Davis Station, the junction of the Beaver and Blackwater rivers, 57½ miles from Piedmont, where the company shops, etc., will be located. At Piedmont it connects with the main stem of the Baltimore & Ohio Railroad, over which all the coal, timber and other freights are sent to the Eastern and Western markets.

The mining department on the mountain is under the general supervision of Mr. A. C. Rawlings.

At Mineville a large tippie was built at the foot of the mountain, from which 1,000 tons of coal can be loaded daily, being so arranged that either hoppers, gondolas or box cars can be speedily loaded, as trade demands. From here a well constructed double incline plane is run up the mountain 1,450 feet to the wheel house, down which all the loaded mine cars, two cars at a trip, are run and dumped. A tram-road, one mile in length, runs around the mountain to the No. 1 and No. 3 openings, to the mouth of which the coal is brought with horses, and the full trips are run by gravity to the wheel house, a large Porter locomotive being used to bring the empty cars back. A fine double track opening was made into the coal, running far back into the hill, with ten headings or entries turned off from it—five on either side. Some of these have already been worked out. Care was taken in making the opening so as to work to the rise of the coal and give good drainage. The coal seam runs about 14 feet in thickness, all of which is mined out. The rooms are worked 14 feet wide, a single line of post are kept alongside of the track as the miner advances, to secure the roof. The mine is ventilated with a furnace, 28 feet long, 5 feet 4 inches high and 5 feet 6 inches wide, with a 96-foot stack. No. 3 opening was made a few hundred yards to the right of No. 1 and worked in same manner. No. 2 mine was opened about two years ago a mile from No. 1. It was opened into the same seam and when in operation put out about 500 tons daily, but it has been idle since the strike several months ago. It is reached by a plane 2,350 feet long. Like all other coal fields, the shipments are a little slow this year, but they are doing fairly well, running but one mine. They employ 275 men and boys. The miners receive 40 cents per ton for run of mine coal.

The Atlantic & Georges Creek Consolidated Coal Company formerly operated the old Atlantic mine, near Pekin, on Georges Creek, Maryland, which was worked out during last

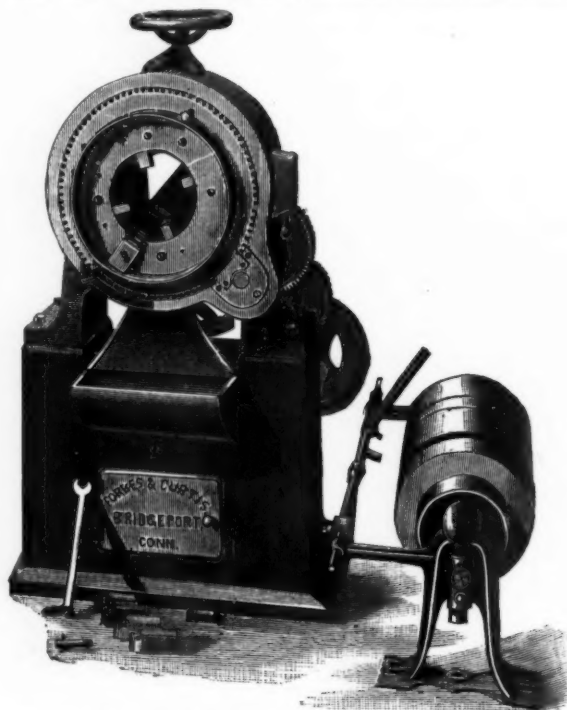
year. They secured a lease on a fine tract of this Elk Garden Big Vein coal, near the No. 2 Elk Garden mine, but on the mountain opposite. Mr. L. T. De Witt, general superintendent for the company, put a force of men to work making openings, building tracks, planes, etc., and shipped the first carload of coal the middle of January last. They are at present averaging only half time. A large tippie was erected at the foot of the mountain and a plane 1,700 feet long run up the mountain to the wheel house. A tram-road of 1,350 feet runs around the mountain to the opening into the coal seam, which averages fully 14 feet, and in some parts of the works a little over that. This mine has been well laid out and fitted up with the best of machinery and mine appliances, enabling them to put out a large yield of coal on short notice. The rooms are driven 13 feet wide, leaving 65 feet pillars between each, thus, they claim, enabling them to bring their pillars back without the loss of any coal. The headings are all laid with steel rails and automatic switches. About 100 men and boys are employed at the present time.

The Big Vein Coal Company secured a valuable piece of this Big Vein coal on the West Virginia Central & Pittsburgh Railroad, nine miles from Piedmont, and made

sively developed, the shipments from them not running over 500 tons a week. They have recently been testing this coal in the test coke ovens at Mineville, with, we learn satisfactory results. Should these tests prove as successful as they hope for, a number of coke ovens will be built at these mines some day in the near future.—The Coal Trade Journal.

No. 3½ Power Pipe Cutting and Threading Machine.

The accompanying illustration shows a No. 3½ Power Pipe Cutting and Threading Machine made by Messrs. Forbes & Curtis, Bridgeport, Conn., who have given the design of this tool great attention, and for rapidity of handling and general excellence, have produced a machine which, it is believed, fills all requirements, and which, coupled with its very low price, is gaining for them many orders. The bits (or dies) are four in number, and carried by a powerful gear, which is furnished with a lead-screw at its back. These bits are worked forward or back by the throw of a cam-ring, which is operated by means of a lever, allowing an adjustment for variations in



NO. 3½ POWER PIPE CUTTING AND THREADING MACHINE.

an opening into it a little over two years ago, under the supervision of their present general superintendent, Mr. James Little, a well-known mining boss, formerly of Lonacoring. The point at which their switches were put in and tippie built was named Windom, being on the main line of the road. The mine is reached by an incline plane 2,000 feet up the mountain to wheel house, then a tram-road 1,000 feet along the mountain face to the second plane, also 2,000 feet in length to the mine opening. Here is also found the 14-foot seam of coal, about all of which is taken out. Mr. Little has his works in good condition, but owing to dullness in the coal trade is only averaging about half time. Their shipments last year to January 1st were 83,170 tons. Shipments are generally made to Locust Point and Baltimore. At the present time about 100 men and boys are employed in and about these works.

The Davis Bros. have opened two mines under the general management of Col. Thomas B. Davis, in the upper Potomac region. The first opening was made in the 8-foot seam at Thomas Station, 50 miles from Piedmont, and the other into the 11-foot seam, near Davis, seven miles further up the present terminus of the road. This is said to be an excellent steam coal, and especially a fine blacksmithing coal. These two mines have not yet been very exten-

sive of fittings. One set of bits threads all sizes of pipe from 2½ to 4 inches, and the second set from 4½ to 6 inches. The cut-off is actuated by a worm and wheel which gives a steady powerful feed. The lead-screw, before mentioned, is engaged with two large lead-screw blocks, one of which can be seen at the right of cut, about the middle of the shell. By means of handles, these blocks are thrown out of gear when the thread is cut, and on opening the dies, the gear can be at once drawn forward, and the dies closed ready for another pipe.

In cutting off, the gear is sent as far back as possible into the shell, and there by means of a pin (not shown in the cut), the lead-block of course being thrown out.

The jaws of the vise are extra strong, being 12 inches long and of ample strength to resist several times over all possible strain that may by accident be put upon them. The gearing has 2½ inch face. The driving cones have two changes of speed, and are 3 inch face. The counter-shaft is arranged for open and cross belts, allowing a few turns backward to be made before loosening the pipe. Further particulars can be obtained from the manufacturers.

NOTE: If you are not already a subscriber to the BALTIMORE MANUFACTURERS' RECORD, send us \$3 and you will receive it regularly for one year, or six months for \$1.50.

Large Purchase of Southern Coal Lands.

One of the most important transactions ever consummated in Southern railroad and coal-mining circles has just been closed. It directly involves the control of 50,000 acres of first-class coal land in the heart of the Upper Measure coal field of Tennessee, and indirectly of 30,000 acres more, while as a railroad move it is shrewd and far-sighted on the part of the owners of the East Tennessee, Virginia & Georgia Railroad. A little history of the property involved is necessary to a full understanding of the character and magnitude of the transaction. Many years since, McEwen and Wiley claimed a large body of coal land in Anderson county, which was also claimed by Charles A. Bulkley, of New York City. Long law suits were the results, which were finally adjusted by a compromise in which each of the contestants, Charles A. Bulkley and McEwen and Wiley received one-half. A company was formed called the Coal Creek Mining & Manufacturing Co., to which the two interests above were transferred, and each party took their half of the stock, McEwen and Wiley having each one-fourth. The property was estimated to contain 40,000 acres, all coal land. Besides this vast area, McEwen and Wiley alone owned in Poplar creek and its tributaries, about 18 miles southwest of Coal creek, 40,000 acres more of coal land. The Knoxville & Ohio Railroad was completed to Coal creek in 1870, and various tracts of land were leased at a royalty of 1 cent per bushel, 25 cents per ton. The business has increased to such an extent that last year the shipments amounted to 296,000 tons. In 1876 a contact was made with McEwen & Wiley for the construction of a railroad from Emory Gap, on the line then being constructed, and the Cincinnati Railway, to the coal piles on the waters of Poplar creek, near Oliver's. By this contract the company were to receive one-half interest in 30,000 acres of land, the McEwens, in addition, selling one-half of 7,000 acres. The land was surveyed and the right of way was secured. Delay in the completion of the Cincinnati Southern, and the unstable control of it for a time after completion, prevented the building of this road, called the Walden's Ridge Railroad. In the meantime a party of St. Louis capitalists, headed by Hon. Jno. S. Scott, bought the Oakdale Iron Works and commenced energetic operations. Their coal supply being found deficient, they had to go to Poplar creek for coal, and in 1880 Colton sold the Oakdale Company the charter of the Walden's Ridge Road and a half interest in the tract of 7,000 acres of coal land. This company completed it as a narrow gauge. From various causes their operations were a series of failures, and the property was offered for sale. The owners of the Coal Creek Mining & Manufacturing Company were induced to believe that a dangerous competition could be avoided by their buying the control of the stock of the Oakdale Company. They secured it for \$145,000. The railroad was then mortgaged for \$125,000 and was completed to Emory Gap as a wide gauge. Its operations did not prove remunerative immediately, and, the burden of debt for past cost as well as for equipment becoming oppressive, some of the stockholders became restive and sold their shares, among them being Mr. Chas. A. Bulkley, of New York, who still held his one-half. As from various causes the stock held by the McEwen estate has been sold to different parties, there is no doubt that Messrs. Thomas, Brice & Co. and others, the active owners of the East Tennessee, Virginia & Georgia Railroad, have secured an ample control of this large and valuable property.

Some idea of the value of this property may be gathered from the following facts: In 1871 the Knoxville & Ohio Railroad transported over its line 36,000 tons of coal; in 1873 the amount was 61,182; in 1874 it fell to 43,187; in 1875 it again rose to 66,143; in 1876 it increased to 73,431; in 1880 it came to 150,000 tons, and in 1882 to 200,000 tons. All of this coal after 1876 was from Coal creek, and before that time nearly the whole amount came from that locality. Hence it is safe to estimate that there has been shipped from Coal creek to January, 1885, fully 1,500,000 tons of coal, which has paid the land owners a royalty of \$375,000, an average of nearly \$27,000 per annum, but which at the present time, for Poplar creek and Coal creek both, can be safely estimated at over \$50,000 per annum, sufficient without possible railroad profits to pay 5 per cent. interest on \$1,000,000 of 5 per cent. bonds. Of this Messrs. Thomas, Brice & Co. secure over one-half, probably equivalent to a royalty of \$30,000. There never has been before any transaction in the South of its actual magnitude and of its great future importance to the iron as well as the coal interests of that section.—H. E. C. in Iron Age,

A Happy City.

The Remarkable Rise and Growth of Anniston—How Its Prosperous People Live.

One of the most interesting studies in the history of the development of the South is furnished in the annals of Anniston. This brave city sprang up so suddenly among the mountains of Northwestern Alabama, that when the story of its rise went abroad it was scarcely believed. Those who gave it credence smiled at the ambition which aimed at still greater achievements and predicted that the city would disappear with somewhat of the same magical suddenness which marked its rise. A visit to Anniston now would rebuke the prophets of its failure and would convince the most stubborn skeptic that the brave and hopeful men who laid its foundations built on the rock of permanency.

There is much to be seen, enjoyed and studied in

THIS MAGIC CITY

of the mountains. Its success, its steady growth, and sturdy prosperity are valuable evidence on many questions.

In the first place, nowhere has there been a more convincing demonstration of the mineral wealth of the South, and of the fact that it can be profitably developed by intelligent methods. When Mr. Sam Noble, some fifteen years ago, casting about through that region, dismounted from his buggy, and by the roadside under the shadow of a great shaggy hill picked up a little red lump of soil and crumbled it in his fingers, his keen sagacity foresaw the possibilities which are now accomplished results. But other men were not so skilled to read the story of the roadside, nor so bold to trust to its translation into wealth and beauty and power. The faith of this man, however, never faltered, his courage never failed, and his patience toiled without ceasing. Now it is easy to see that he was right in the brightest of his dreams that this wilderness could be made to blossom as the rose. Within a few feet of the spot where he found the first suggestion of the wealth that lay within those hills hundreds of men are daily digging from the soil the finest iron ore to be found in this country. The process is so simple that it does not suggest the usual associations of a mine. The ore is everywhere in the soil. There is no tunnelling, or delving into depths. Nature left her riches on the surface and they are taken out as simply and as safely as the farmer digs his potatoes. For ten years they have been drawing on this one hillside, and as yet it seems merely scratched as one looks upward to the great slope and the thousands of acres above which are

ALMOST SOLID IRON.

A century of such labor would not begin to impoverish this mighty depository. But it is hardly richer than its sister hills, which form a bulwark about the city. The ore is mined within a few hundred yards of the two great furnaces, whose fires flash and flare through day and night. After being washed at the ore beds, it is conveyed on a railroad to the furnaces, where it is converted into the finest quality of charcoal iron. The supply of charcoal is inexhaustible. For miles around there is a magnificent sweep of heavily timbered lands. The history of iron manufacture at Anniston has been one of phenomenal success. Since its furnaces were built, the iron industry has suffered the severest depressions it has ever known, and the fires have been extinguished in the most favored regions. Anniston has never known what it was to see a cold furnace, and the fame of its fine iron has extended throughout the whole country. In addition to the two furnaces in the city the company own two on the line of the Anniston & Atlantic railroad, a line constructed by them, and penetrating for forty miles the rich mineral and agricultural country which lies to the Northwest. One of these furnaces is at the foot of a mountain. The

ore is mined up on the slope, and is literally SLIDED INTO THE FIRE.

A more perfect arrangement and juxtaposition of resources is not possible.

Though most famous for its fine ores and pig iron, Anniston has several other valuable industries. A cotton factory with 12,000 spindles was completed several years ago, and was profitably operated until last spring, when it was shut down for six months owing to the overstocking of the cotton goods market. It will resume operations on the 1st of October. The car wheel factory has been a success from the start. A car factory is also in profitable operation. The Woodstock Iron Company is now constructing a large rolling mill which will soon be completed, and will be adapted to the manufacture of heavy rolled iron for car axles, etc.

But the great industries of the city do not afford its most pleasing study. That is furnished in the arrangement of the city itself and in the condition of the people who live in it. A better site for a town cannot be found. It is nearly one thousand feet above the sea. Within the hills that shelter it are two gentle slopes coming down on either side to a plane in the center, which has a natural incline of 75 feet in the 1,000. The drainage is therefore perfect. Within half an hour after the hardest rain the streets are firm and dry. They are protected from the attacks of the weather by the best macadam and by a coating of slag from the furnaces which makes a smooth and beautiful roadway. The natural advantages of location have been admirably improved. The city was completely surveyed and laid off before a house was built, then the streets were planted with shade trees, and tunnelled with sewers. Then mansions and cottages were built and made luxuriant or cosy for their occupants.

The sense of the founders of the city is illustrated in the disposition of its different classes of population. In one quarter of the city reside the mechanics, the whites separated from the negro workmen. In another quarter the cotton factory operatives live in the same way. A third division is set apart for the ore miners. The cottages are models of

NEATNESS AND COMFORT.

They are built of the best material, painted and plastered, and furnished with water which comes gushing down from a reservoir that supplies the entire city. The water of Anniston is one of its treasures. It comes from an artesian well and pumped to a great reservoir set so high that six streams can, by the natural pressure, be thrown over the tall chimney at the cotton factory, the loftiest structure in the city. Attached to each cottage is a quarter of an acre which is devoted to flowers and vegetables. The pride of the cottagers in beautifying their premises is remarkable, some of them displaying unusual taste and skill. One who has never seen a crowded manufacturing town in the North or in England, cannot appreciate the comforts of the Anniston mechanics. Compare these pretty cottages, with their ventilation, their vinecovered porches and their blooming gardens, with one of those enormous tenements, where the men, women and children are packed into narrow rooms, shut out from the light and the breeze and shut in with discomfort and disease. The difference can be read in the appearance of the people who are placed in these contrasted conditions. The pale, pathetic faces, with their weary, timid look, so often seen in great manufactories, are unknown in this place where air, and exercise, clean houses, pure water, and wholesome food are afforded to all.

A fine system of public schools is supported by the company for the benefit of the children of its employees. There are neat churches of various denominations. An Episcopal church, built of gray granite and costing about \$30,000, is about complete.

The numerous churches in Anniston give correct suggestions of its morality. It is a prohibition town. There are policemen, but they have little to do. Disturbances are unknown. The people work honestly during work hours, and spend their leisure in social intercourse and in innocent recreations.

THERE ARE NO STRIKES

at Anniston. Of course not. The working classes are well paid and well cared for. They live in homes—not in hives. They are healthy, cheerful, industrious and happy. Sometimes it has been necessary to make a temporary reduction of wages. When the company determines that it must do this the workmen are informed that it is done only because it cannot be avoided. There are no grumblings or sullen looks, for the employees know perfectly well that just so soon as trade revives their wages will be restored. When the cotton factory suspended last spring the operatives were provided with work on the company's farm or in the improvements about the city. Besides, they were allowed to have their cottages free of rent during the time of the suspension.

Rents are very light. Four room cottages are only \$4 a month and six room cottages only \$6. In making these people contented and happy the owners of this superb property have done a better work and reared a nobler monument than when they set their blazing furnaces to melt down the millions of wealth hidden in the hills about them.

THE WOODSTOCK IRON COMPANY

is composed of six men, three Tylers and three Nobles. The Tylers are sons of General Tyler, of Charleston, one of the bold railroad pioneers of the South, who, when not twenty-five years old, was the chief engineer and superintendent of the Macon and Western railroad. The old gentleman lived long enough to see Anniston become established and successful and lies buried in the cemetery that covers one of its fairest slopes.

The Nobles are sons of an Englishman, who brought his family to America when his son Samuel was a baby. The other sons were born in Pennsylvania, where Samuel Noble, Sr., engaged in the iron business. The family came to Georgia before the father's death. After the war the Nobles established iron works at Rome, which they still own, but have leased for a number of years.

After discovering the resources of the surrounding country and working out the problem of a possible city in its midst, Mr. Sam Noble, Jr., formed a stock company which purchased 60,000 acres of land and worked the wonders now to be seen where a wilderness stood fifteen years ago. Up to two years ago last spring the city was owned entire by the Woodstock Iron Company. Then it was thrown open. Many lots are now owned by other parties, and there is an invitation to all who choose to come. The Tylers and Nobles have beautiful homes on the Eastern slope of the city surrounded by spacious grounds. From the portico of Mr. Samuel Noble's home,

THE FINEST VIEW

can be had of the city. Its clustered cottages, its handsome business blocks, its numerous church spires and its flaming furnaces present a scene of industry and prosperity. The iron ribbed hills make a sombre background which emphasize the bright beauty of the city. To the south, there is a glimpse of the luxuriant Choccolocco valley, which stretches out for twenty miles, and yields a rich return to its prosperous farmer folk. To the northward lies another valley, equally rich and fair. Surrounded thus by a superb agricultural country, Anniston has a brisk and varied business. There are scores of handsome retail stores, with excellent stocks. Two wholesale houses do considerable jobbing, and send their drummers to contest with Atlanta, Birmingham and Montgomery for the trade of the neighboring towns.

There are two banks, one of them a national bank. The workmen have surprisingly good accounts with the banks, and receive encouraging interest on their deposits. Anniston supports a daily paper, the Watchman, and a weekly, the Hot Blast. The latter is edited by Mr. Howard Williams, formerly of Atlanta, who has made it famous throughout that section by his lively editorial work. After enjoying a bird's eye view of the city from Mr. Noble's porch, a glance northward across the clover field where his Jerseys are browsing, reveals an imposing structure on an eminence equal the point of observation, half a mile distant. That is the

FAMOUS ANNISTON INN.

It has been pronounced the completest hotel in the South, and no man who has not seen it has a right to dispute that claim. It is a graceful specimen of Queen Anne architecture. Its very appearance is an invitation to rest and ease. The wide verandahs extending entirely around the first three floors indicate easy chairs and delicious breezes as far as they can be seen. The approach to the inn is past a twenty-acre lawn, in the center of which a lake is being constructed, and up the graveled walks which wind their way through the luxuriant blue grass to the broad stone stairway at the main entrance. The interior of the inn more than fulfills the expectation awakened by its external attractions. It is simply perfect in all its appointments. The interior finish is of solid wood, polished like satin, and relieved by unique tiles and rich tapestry. The square windows with their stained glass and artistic draperies soften the scene with a peculiarly fine effect. The parlors are magnificently furnished, and offer many tempting devices for the ease of their occupants. The bed rooms are large and perfectly ventilated and from the second to the fifth floor are furnished in equal style and taste. But the most beautiful apartment in this elegant establishment is the dining room. Its walls are of oak, with exquisitely carved ornaments and the finest attainable polish. The glowing arches which span it in three places and the exquisite inlaid work which shines about the windows in various designs are among the many things to admire in this royal room. Its tables are furnished with the clearest crystal, the brightest silver and the most beautiful china. The menu is in keeping with the elegance of the table settings. The entire house is lighted both with incandescent electric lights and with gas. The cost of this palatial establishment was

A QUARTER OF A MILLION

It is kept in every respect up to the metropolitan standard, and is under the superintendence of Mr. Harry Hardell, a well-known Philadelphia hotel man, who is assisted by Mr. Pendleton, of Richmond. From the verandahs of the hotel a superb view is had. The breezes sweeping constantly through the wide arches, and the fluttering curtains make the inn a most tempting summer resort, and it is arranged to be kept warm and cozy in winter, so that whenever the traveler finds shelter beneath its roof he can be comfortable and happy.

The city is at the junction of the Georgia-Pacific and the East Tennessee, Virginia & Georgia Railroads. It is thus a competitive point, and enjoys the same through rates as Atlanta and Montgomery. The Anniston & Atlantic, which now extends forty miles, penetrates one of the richest regions in the South, and will be continued.

LOOKING TO THE FUTURE.

Anniston is enjoying a steady growth. Several fine residences and storehouses are in process of construction, and its mercantile business is rapidly extending. The great enterprises of the Woodstock Iron Company, representing an investment of many millions, are flourishing in spite of the financial depression which, during the past few years, has proven fatal to so many similar establishments.

Anniston is a pleasant and instructive study, not only because of its swift and astonishing rise to its present proportions, but by reason of the many well grounded hopes for its future growth and greatness.—F. H. R. in Atlanta Constitution.

513 Seventh St., WASHINGTON, D. C.
Three years' experience in examining corps. Eight years' practice. Moderate fees. Personal attention. Excellent facilities for obtaining foreign patents. *All business before Patent Office hastened and aided by nearness to it.* Opinions; searches; suits in court; interferences. Write (Box 230) for references, fees, information.

St. Louis Iron Market.

Specially reported by W. H. SHIELDS, Pig Iron and Iron Ore, No. 305 Olive Street.

St. Louis, Sept. 28, 1885.

The condition of the market has not changed since last report. Buyers and sellers have come to the conclusion that there will be no boom. There is no quotable advance here in standard brands. The demand for old rails, both iron and steel, is good. We quote:

HOT-BLAST CHARCOAL.	
Missouri.....	\$15 00@16 00
Southern.....	16 75@17 50
Ohio.....	—@—
COKE AND COAL.	
Missouri.....	14 00@16 00
Southern.....	15 00@17 00
American Scotch.....	16 00@19 00
MILL IRONS.	
Missouri.....	14 00@14 50
Southern.....	13 50@14 00
CAR-WHEEL AND MALLEABLE IRON.	
Southern.....	30 00@34 00
Lake Superior.....	30 00@33 00
MISCELLANEOUS.	
Old Wheels.....	14 00@14 50
Old Rails.....	16 75@17 00
Old Rails, steel.....	15 00@15 25
Wrought Scrap.....	55@ 65
Cast Scrap.....	45@ 55
Connellsville Coke, East St. Louis.....	@ 5 30
Iron, par.	

Literary Notices.

BIBLE students will be interested in the announcement of Messrs. Cassell & Co., of a "Handy Commentary on the Old Testament," edited by Charles John Ellicott, D. D., Lord Bishop of Gloucester and Bristol. The work is to be issued in separate volumes, each volume written by a different writer. The three now nearly ready are "Genesis," with commentary by Rev. R. Payne Smith, D. D., Dean of Canterbury, with an introduction by Dean Plumptre; "Numbers," with commentary by the editor, and "Leviticus," by Rev. C. D. Ginsburg, L. L. D. The volumes are of handy size, printed in large, clear type, on good paper.

A MOST important book on Cassell & Company's list is "The Story of the Heavens," by Robert Stowell Ball, L. L. D., Fellow of the Royal Society of London, etc., etc. The book, although on a scientific subject, is written in a popular manner, and is profusely illustrated with plain and colored plates of exceptional quality. The powerful apparatus of the last decade makes it possible to take photographs of the moon and stars that are simply marvelous in the vividness of their reproduction.

MRS. ALICE WELLINGTON ROLLINS, one of the most charming magazine writers of the day, has written a little book, which Messrs. Cassell & Co. will soon publish, called "The Story of a Ranch." It is a true story, the outcome of the authors own experience on a Kansas sheep ranch, and it is as fresh and bracing as a prairie breeze. There is a good deal of information mixed in with picturesque descriptions, and the result is a book that will serve the double purpose of entertainment and instruction.

MR. EDMUND C. PECHIN, M. E., has connected himself with the Iron Trade Review, of Cleveland, as associate editor and special contributor upon metallurgical topics, the design of the managers being to make this journal a recognized authority upon the practical and commercial aspects of iron and steel making. As an active member of the American Institute of Mining Engineers, a former blast furnace manager, and a ready, and instructive writer upon practical metallurgy, Mr. Pechin is well and favorably known throughout the country, and the line of work laid out by him promises much of interest and value to those engaged in the mining of the raw materials and their conversion into the various forms of the finished product.

THE Lechner Manufacturing Company, Columbus, Ohio, have issued a circular containing letters of commendation from users of the Legg Coal Mining Machines and Rotary Power Coal Drills.

THE Knowles Steam Pump Works have issued a revised catalogue of their improved pumping machinery, illustrating and describing the various styles of pumps made, and the various uses to which they can be put. The manufacturers say:

"In this revised catalogue we have endeavored to give full particulars and illustrations of as many designs as possible of the Knowles Improved Pumping Machinery, but the extent of our business is such that we cannot do the subject justice within the limits of a catalogue as convenient as this size is.

We are constantly bringing out new specialties in our line, and adapting the Knowles Patent Direct-Acting Pumping System to new mechanical purposes which the growing industries of the country continually demand.

We therefore solicit correspondence from our patrons and others who do not find within these pages designs of pumping machinery adapted to their special requirements. We will gladly furnish them with plans and estimates on receipt of full particulars.

Each and every pump built and sold by us is furnished fully guaranteed. In case of the failure of any of our machines to properly perform the service for which they are warranted, we hold ourselves under obligation to make the same fully satisfactory, or to refund the price paid for same."

This catalogue will be furnished upon application to the Knowles Steam Pump Works, 44 Washington St., Boston, Mass.

Guaranteed Tin Plates.

PHILADELPHIA, SEPT. 28th, 1885.

Many of the architects who have specified our "Gilbertson's Old Method" and "Camaret" brands of guaranteed roofing plates, have experienced trouble in assuring themselves that these brands were positively being used when specified; and many roofers have complained to us of their having lost contracts in being under-bid by others using plates inferior to the brands specified.

It having been suggested to us by many architects to place some distinctive mark on our guaranteed plates, a member of our firm has just paid a visit to Wales, and we now have the pleasure to inform architects, builders and roofers that the manufacturers of the "Gilbertson's Old Method" and "Camaret" Roofing Plates are now engaged in erecting the necessary machinery by the use of which every sheet of each of these guaranteed brands will be plainly stamped with the name of same. Architects will thus be enabled to know at once if their specifications are being carried out—as far as our brands are concerned—and all roofers will be free from the competition of those who are not willing to live up to their contracts.

We believe that our action in this matter will meet with the hearty approval both of architects and roofers; and in the end lead to a better class of roofs and a fairer competition; and we are fully confident that the "Gilbertson's Old Method" and "Camaret" brands of guaranteed roofing plates will be more largely used under these circumstances than ever before.

P. S.—We can also furnish tin shingles made of our guaranteed brands.

MERCHANT & CO.

TRADE NOTES.

A New and Pretty Hotel.

The Griffin House is the name of an elegant new hotel in Detroit, Mich., only thrown open to the public September 1st. It is centrally located, opposite the Michigan Central Depot, and near the river, making it the most desirable hotel for commercial men and tourists in the city. It is a model of architectural beauty within and without; elegantly fitted and furnished with the richest and

most modern appointments. Much of the furniture is rosewood and mahogany, and the windows large French plate and stained-glass, and the walls are handsomely frescoed. The office, billiard and sample rooms, barber shop, ticket office, etc., occupy ground floor. In the dining-room the table and service are unsurpassed, and there a bevy of pretty waiter-girls glide noiselessly about, serving one in that dainty manner that would delight either the sourest dyspeptic or an epicure. A trip through the kitchen and store-rooms reveals order and cleanliness extraordinary. The rooms, single and *en suite*, are large and airy, with fine furniture and luxurious beds.

This is the only first-class hotel in Detroit giving a fine view of the beautiful Detroit river.

Mr. J. C. Griffin, proprietor, is a thorough "hotel man" of experience and fine tastes, and is deservedly popular with his guests.

Col. James Bagley, the genial and clever manager and clerk, knows the art of making one feel at home, and is a great favorite with "the boys," who come many miles to "Sunday" at this excellent and favorite hotel. When you visit Detroit don't fail to try the "Griffin."

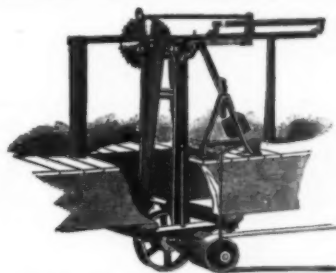
LODGE, BARKER & CO.

Cincinnati, Ohio.

Manufacturers of first-class

Square Arbor Fox and Improved Turret Lathes,

Valve Milling Machines, Box Chucks, Turret Chucking and Engine Lathes. Write for Cuts, Photographs and descriptions.



New Swing Cross Cut Saw,

with rigid iron frame and steel arbor. The frame is mounted on a heavy iron base, bolted to the joist under the floor. Saw Mill Mandrels, Saw Machinery, and all sizes of Saw Arbors.

R. M. McETH & CO.

185 Pearl Street, Cincinnati, Ohio.

SOUTHERN LUMBERMAN.
Nashville, Tenn.

The oldest paper of the kind published in the South. It furnishes the latest news and correct lumber quotations of all the principal markets. The list of freight rates is a feature never before attempted by any other journal. Sample copies sent free and advertising rates furnished on application. Terms, \$2.00 per year; \$1.00 for six months.

NASHVILLE, TENN.
A 40-Page Semi-Monthly Journal Devoted to the Saw Mill, Lumber & Wood-Working Interests.

BOOMER & BOSCHERT,
TALLOW PRESSES.

LARD AND

—ALSO PRESSES FOR—

Cotton, Woolen and Paper Factories,

Cotton Seed, Paraffine and Castor Oil.

Send for Circulars.

BOOMER & BOSCHERT PRESS CO.

SYRACUSE, N. Y.

WESTERN FORGE
AND
TOOL WORKS

MANUFACTURERS OF
Bridge & Roofing Bolts
BOLT ENDS,
Wrought and Cast
WASHERS,
1220 & 1222 Collins St.
ST. LOUIS, MO.

Pennsylvania Agricultural Works, York, Pa.
Farquhar's Standard Engines & Saw Mills.
Send for Illustrated Catalogue.

Address A. T. FARQUHAR, York, Pa.

Steam Engines.
AUTOMATIC AND
FAIR SLIDE VALVE,
Stationary, Portable and
Traction. Cheapest
and best for all purposes.
Simple, strong and durable.
No Farquhar boiler ever exploded. Saw Mills,
Threshing Machines and
Agricultural Implements
and machinery generally.
Send for illustrated catalogue
A. T. Farquhar,
York, Pa.

Derby Roll Top AND Flat Top Desks

The BEST and CONSEQUENTLY the CHEAPEST
OFFICE DESK IN THE WORLD.

Derby & Kilmer Desk Co.,
Manufacturers.

OFFICE AND WAREHOUSES:

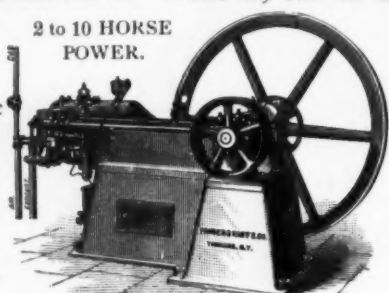
55 to 65 Charlestown St.,
BOSTON, MASS.



PARKER GAS ENGINE.

Guaranteed to Run with Less Gas than Any Other Gas Engine Known.

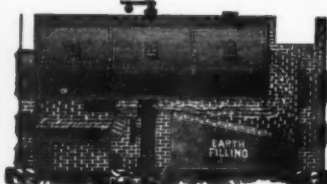
Always Ready to Start. 2 to 10 HORSE POWER. No Boiler. No Coal. No Ashes to be Removed. No Chimney. No Engineer. No Smoke. No Smell. Lighted by Electric Spark. Simple. Durable. Effective.



No Slide Valve to Get Out of Order. Does Not Hazard Insurance. No Small Parts to Clog Up. Is Noiseless in Running. Requires no Matches to Ignite the Gas. Can be Run with Any Kind of Gas. It is the only Engine that can be run equally as well with Gasoline Gas or Carburetted Air, as with regular fixed gas. Speed can be adjusted while running from 80 to 200 revolutions per minute.

YONKERS MFG. CO. SOLE PROPRIETOR AND BUILDER, Salesroom, 16 Bay St., New York. SEND FOR ILLUSTRATED CIRCULAR AND PRICE-LIST.

JARVIS PATENT FURNACE FOR SETTING STEAM BOILERS.



Economy of Fuel, with increased capacity of Steam Power. Like the Siemens Process of Making Steel, it utilizes the waste gases with hot air on top of the fire. Will burn all kinds of waste fuel without a blast, including Slack Coal, Sawdust, Logwood Chips, &c. Send for Circulars.

Jarvis Engineering Co.,

A. F. UPTON, Treas. and Gen'l Manager, 61 Oliver St., Boston, Mass.

JOSHUA C. COE, Agent for Maryland and Virginia, O'Donald's Wharf, Baltimore, Md.

SOUTHERN REFERENCES:

Eagle & Phenix Mfg. Company, Columbus, Ga.
Anniston Mfg. Co., Anniston Ala.
J. P. King Mfg. Co., Augusta, Ga.
Rose Mining Co., Charleston, S. C.
Maryland Pavement Co., Baltimore, Md.
Brush Electric Light Co., Baltimore, Md.
Ettrick, Matoca and Battersea Mfg. Co's., Petersburg, Va.
Rasin Fertilizing Co., Baltimore, Md.
Tanner & Delaney Engine Co., Richmond, Va.
Sibley Mills, Augusta, Ga.

Graniteville Mfg. Co., Graniteville, S. C.
Charleston Bagging Co., Charleston, S. C.
P. H. Mayo & Bros., Richmond, Va.
Phosphate Mining Co., Beaufort, S. C.
Brush Swan Electric Light Co., Norfolk, Va.
Columbus Ice & Refrigerator Co., Columbus, Ga.
Lenoir Manufacturing Co., Lenoir, East Tennessee.
Vanceuse Mill, Graniteville, S. C.

PHOSPHOR-BRONZE

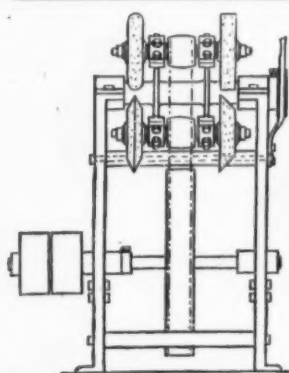


The celebrated alloys in Wire, Rods, Sheets, Bolts, Wire Ropes, Wire Cloth, Castings, Ingots, etc. Pamphlets and particulars on application to

THE PHOSPHOR-BRONZE SMELTING CO., Limited.

No. 512 ARCH STREET, PHILADELPHIA, PA.

Owners of the U. S. Phosphor-Bronze Patents. Sole Manufacturers of Phosphor-Bronze in the United States.



BLAISDELL'S
Eight Wheel Emery Machine,
FOR GRINDING



ALL KINDS OF IRREGULAR CUTTERS.

THE MACKENZIE PATENT CUPOLA AND BLOWER

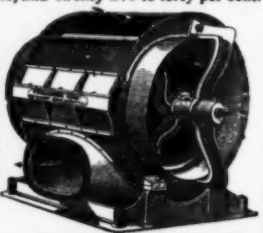
Send for Circular to SMITH & SAYRE MFG. CO., Proprietors, 245 Broadway, N. Y.



This Cupola has made a great revolution in melting Iron. It differs from all others in having a CONTINUOUS TUYERE, or in other words, the blast enters the fuel at all points. Above one ton capacity per hour, they are made oval in form. This brings the blast to the center of the furnace with the least resistance and smallest possible amount of power, and in combination with the continuous Tuyere causes complete diffusion of the air throughout the furnace, and uniform temperature, melting ten or fifteen tons an hour with the pressure of blast required to melt two or three tons in an ordinary Cupola. It also enables us to save very largely in time and fuel, the experience of our customers showing a gain of twenty-five to fifty per cent. in time, and twenty-five to forty per cent. fuel over the ordinary Cupola, and a BETTER QUALITY OF CASTING, especially in light work.

This is due to the thorough diffusion of the air and more perfect combustion, extracting less carbon from the iron, making a softer and tougher casting.

We manufacture these Cupolas of any desired capacity, numbered from 1 to 20, inclusive, the numbers indicating the melting capacities in TONS PER HOUR—No. 1, one ton; No. 2, two tons; No. 3, three tons per hour, and so on up to 15, or 20 tons. We have improved the construction of these Cupolas in every way, have increased their strength and durability, and sought to make them as convenient for working and repairs as our own and the experience of our customers could suggest.



GOVERNORS

For Water Wheels

Cohoes Iron Foundry & Mch. Co. Send for Catalogue. Cohoes, N. Y.

MOOPES & TOWNSEND,

MANUFACTURERS,

PHILADELPHIA, PA.



KEYSTONE BOILER RIVETS.

Cold-Punched Square and Hexagon Nuts.

Finished and Case-Hardened Steel Hexagon Nuts.

BRIDGE RODS AND RIVETS.

BUILDERS' IRON WORK.

TANK AND COOPERS' RIVETS.

THE Stockport Gas Engine **UNEQUALLED**

FOR
Simplicity,

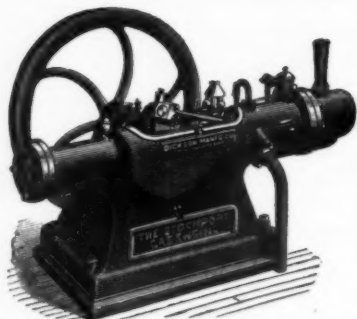
Durability,

Reliability,

Economy,

Lightness, and

General Design.



Starts with Ease.

Receives an Impulse at every revolution.

Runs Silently.

Uses Less Gas per Horse-Power than any other.

THE DICKSON MANFG. CO.

Locomotives, Stationary Engines, Boilers, Mining Machinery,

SCRANTON, PA., and 112 LIBERTY ST., NEW YORK.

Send for Circular, giving particulars of sizes and prices.

IMPROVED HOISTING ENGINES

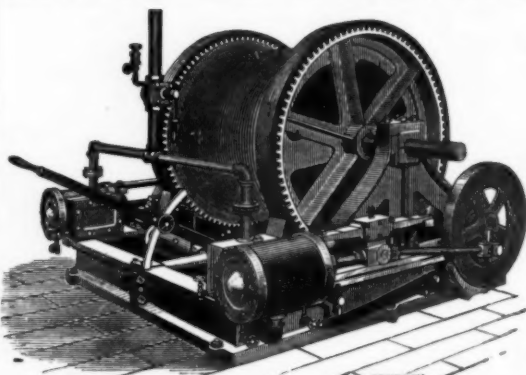
—WITH—
WIRE-ROPE DRUMS
AND
SAFETY BRAKES.

SPECIALLY ADAPTED TO
Mining & Interests.

MANUFACTURED BY THE
Lidgerwood Mfg. Co.
96 Liberty St., N. Y.

Hoisting Engines for all purposes.

MORTON, REED & CO., Agts.
59 & 61 German St., Baltimore.



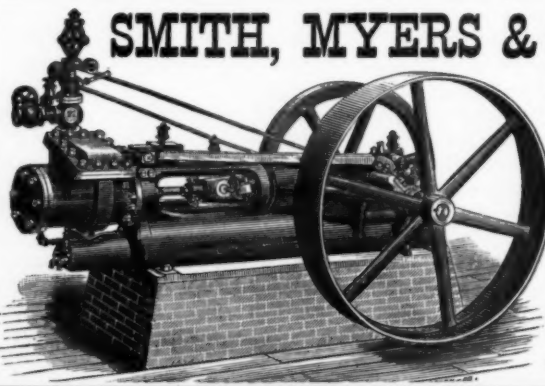
SMITH, MYERS & SCHNIER,

402 to 412 W. Front Street,
CINCINNATI, O.

MANUFACTURERS OF
PATENT TERRAPIN
CENTRE CRANK
ENGINES,

from 75 to 200 Horse Power.
BOILERS AND
SAW MILL MACHINERY.

Send for illustrated Catalogue and prices.



STEAM

PUMPS

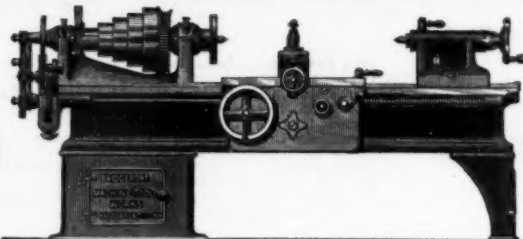
SEND FOR

PRICES.

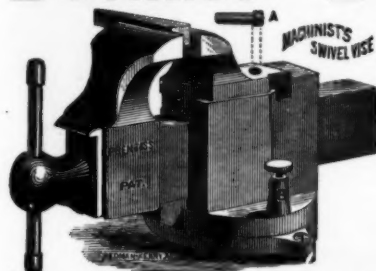
VALLEY MACHINE CO. EASTHAMPTON, MASS.

E. P. BULLARD,

Proprietor
Bridgeport
Machine Tool
WORKS.



14 DEY
STREET,
NEW
YORK.

IRON WORKING MACHINERY.**Prentiss' & Patent Vises.**

"Peerless" (Swivel Jaw) Pipe Grip.
Every Part Interchangeable.
CAN BE USED ON ANY VISE.

Adjustable Jaw.
Stationary or Pat. Swivel Bottoms
CANNOT GET OUT OF ORDER.
Cheapest and Best Vises for Railroad Shops, Ma-
chinists, Manufacturers, Mechanics, &c.



"PEERLESS" (SWIVEL) PIPE GRIP.
For Sale by the Trade.

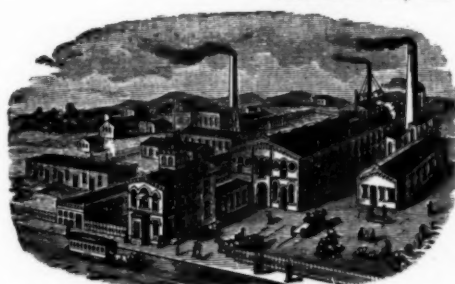
PRENTISS VISE CO., 23 Dey Street, NEW YORK, Sole Proprietors.

Ludlow Valve Manfg. Co.

Office and Works:

938 to 954 River Street, and 67 to 83 Vail Avenue,

—TROY, N. Y.—



VALVES

Double and Single Gate, 1/4 inch to
48 inch—outside and inside
Screw indicators, etc., for
Gas, Water, Steam, Oil.
Send for Circular.



Also Fire Hydrants, Yard and Wash Hydrants, Check and Foot Valves.

J. STEVENS & CO.,

P. O. BOX
860.

CHICOPEE FALLS, MASS.

MANUFACTURERS OF

Spring Caliper and Dividers,

FINE MACHINIST TOOLS

AND FIRE ARMS.

Our SHOOTING GALLERY RIFLE

IS THE FAVORITE EVERYWHERE.

•• SEND FOR ILLUSTRATED CATALOGUE. ••

THE MIDVALE STEEL CO.

TIRES and AXLES

OF EVERY DESCRIPTION.

TOOL-
AND
MACHINERY STEEL



CRUCIBLE AND OPEN HEARTH STEEL.

Works & Main Office:

Nicetown, Philadelphia, Pa.

BRANCH OFFICE:

383 Walnut St., Philadelphia, Pa.

SPRING AND GUN
STEEL.

WM. SELLERS & CO.

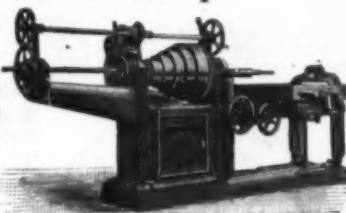
PHILADELPHIA

IRON AND STEEL-WORKING MACHINE TOOLS,

For Railways, Machine Shops and Rolling Mills. Also,

Shafting, Pulleys, Hangers, Couplings, &c.

Were the first parties to design and introduce
the BALL and SOCKET HANGERS, ADJUS-
TABLE COUPLINGS, and the system of selling
Shafts, Pulleys and Couplings by the piece. Will
be pleased at any time to give estimates for work
in place, in mills or at our works. Price-Lists
and other information given when requested.

**BACON**

Winding Engines,
Furnace Hoists,
Mine Hoists.

(With or without Boilers.)

"Mining Plants," Concentrating Works, and Dredg-
ing Machinery Furnished Complete.

COPELAND & BACON,

85 Liberty Street, New York.

FAIRBANKS & CO., Agents,

References: { Croton Magnetic Iron Mines, Brewster's, N. Y.
Crown Point Iron Co., Crown Point, N. Y.
Belvidere Iron Co., 52 Broadway, N. Y.
Sea Island Chemical Co., Beaufort, S. C.

**"STEAM"**

A valuable book for every
Steam user and Engineer,

published for FREE DISTRIBUTION by

THE BABCOCK & WILCOX CO.,

Manufacturers of

WATER-TUBE BOILERS,

107 Hope St., GLASGOW.

39 Cortlandt St., NEW YORK.

**MACHINE * MOLDED
Cast Pulleys**

—Turned, Bored and Balanced.—

Also HANGERS, Every Description of COUPLINGS and SET COLLARS.

Send for Price List and Discounts.

Todds & Stanley Mill Furnishing Co.

Office and Factory, 917 N. 2d Street, ST. LOUIS.

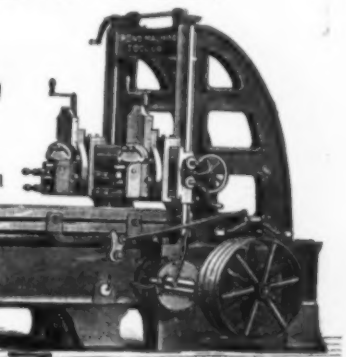
**POND MACHINE TOOL CO.**

Successors to DAVID W. POND,

— MANUFACTURERS OF —

Iron Working Machinery,
WORCESTER, MASS.

Special Railroad Tools, Lathes, Planers, Upright and
Radial Drills, Boring Mills,
Gear Cutters, Milling Ma-
chines, Patent Shafting
Lathes, Hand Punches and
Shears, Planer Chucks.—
Special machinery in great
variety. Estimates furnished.
Send for catalogue.



SAML. G. B. COOK & CO., HARDWARE

MANUFACTURERS' AGENTS

63, 65, 67 and 69 German St., BALTIMORE, MD.

AGENTS FOR

Buckthorn Fence Co.—Buckthorn Wire.
American Screw Co.—Screws, Rivets, Bolts, etc.
Branford Lock Works.
Boss Molasses Gates.
Carr & Crawley.—Shelf and Carriage Hardware.
Lancaster Bolt Co.—Eagle Carriage Bolts.
Lawson & Brenizer.—Hay and Manure Forks.
Meriden Britannia Co.—Rogers Bros.' At Plated Goods.
Northwestern Horse Nail Co.
Nicholson File Co.
Naugatuck Cutlery Co.
Globe Horse Nail Co.

Cowles Hardware Co.—Geers, Butts, Screw Drivers, etc.
H. Chapin's Sons.—Rules, Levels, Gauges, etc.
Clark Bros. & Co.—Bolts.
Essex Horse Nails.
A. Field & Sons.—Tacks, Finishing Nails, etc.
H. C. Hart Manufacturing Co.—Spring Butts, Screen Frames, etc.
Hubbard, Bakewell & Co.—Lippincott Axes, Saws, Shovels and Hoes.
Holroyd & Co.—Stocks and Dies.
Henry W. Kipp.—Hammers.
Klein, Logan & Co.—Picks, Mattocks, Sledges, etc.
Kimball's Patent Shovels and Spades.
Lockwood Steel Hoes.

Peck Bros. & Co.—Brass Cocks.
Payson Mfg. Co.—Building Hardware.
Patton Mfg. Co.—Enameled and Tin'd Hollow Ware.
Roy & Co.—Strap and T Hinges and Wrought Butts.
Saranac Horse Nail Co.
Scott Mfg. Co.—Peach and Apple Pears, etc.
George M. Scott.—Blacksmith Bellows.
Wilson's Mfg. Co.—Coffee Mills, Vises and Ship Hardware.
Walker's Horse and Mule Shoes.
International and Pimlico Brand of Horse Nails, Foreign and Domestic Hardware, Cutlery, Chains, Pistols, etc.



Improved Roller Bushed Iron Sheave.

BAGNALL & LOUD BLOCK CO. BOSTON, MASS.

Manufacturers of the Latest Improved ROLLER BUSHED and GENUINE METALINE BUSHED and Iron Bushed Rope and Iron Strapped

TACKLE BLOCKS.

Send for the Celebrated
STAR BRAND



Improved Harcourt Patent.

Send for Catalogue
No. 1.



Improved Self-Locking Link Snatch Block.

DICKSON MANUFACTURING CO.

MAKERS OF CABLE MACHINERY FOR NEW YORK & BROOKLYN BRIDGE

LOCOMOTIVES FOR ALL KINDS OF SERVICE

BLAST ENGINES FOR IRON & STEEL WORKS

BESSEMER STEEL PLANT MACHINERY

DERRICK & WRECKING CARS

SPRING PLATE STEEL TIRED CAR WHEELS

CAST CAR WHEELS, MINE CAR WHEELS

STATIONARY ENGINES, HORIZONTAL & VERTICAL, SINGLE & IN PAIRS

HIGH PRESSURE, CONDENSING & COMPOUND, HOISTING ENGINES

CARRIAGES, DRUMS & MACHINERY

COLLIERY MACHINERY

COAL & PHOSPHATE BREAKERS WITH PATENT REMOVABLE STEEL TEETH

SCREENS & VENTILATING FANS

PUMPING ENGINES OF HIGH DUTY TYPES

CORNISH PUMPING ENGINES, PUMPS, VALVES

BOILERS OF EVERY KIND & SIZE

HANGERS, SHAFTING & PULLEYS

GEARS BOTH CAST & CUT

HEAVY MACHINERY OF ALL KINDS

NEW YORK OFFICE 112 LIBERTY ST.

GENERAL OFFICE SCRANTON PA.

SOLE AMERICAN BUILDERS OF THE STOCKPORT GAS ENGINE AND THE LIGHTFOOT DRY AIR REFRIGERATING ENGINE

H. M. BOIES, PRES. • W. H. PERKINS, SECY & TREAS. • S. BROADBENT, GEN'L SUPT. • C. W. WATTS, M. E. • E. D. LEAVITT, JR., D. M. E. CONSULTING ENGR. • GEO. B. ROSS, AGENT IN N. Y.

SUBMARINE TUNNEL AND TUBE COMPANY

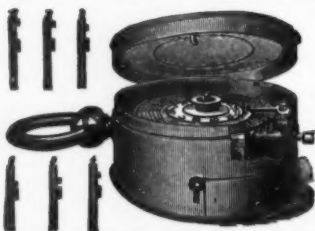
Will supply estimates for laying double or single Railway Tunnels, Water Mains or Tubes across any bay or channel. Correspondence solicited.

Office, 95 Liberty Street, Room 2,
NEW YORK, N. Y.



Buerk's Watchman's Time Detector.

—IMPORTANT FOR ALL LARGE CORPORATIONS AND MANUFACTURING CONCERNS.—



Capable of controlling with the utmost accuracy the motion of a watchman or patrolman as the same reaches different stations of his beat. The instrument is complete in itself, portable, and as reliable as the best lever watch. It requires no fixture or wires communicating from room to room, as is the case with ordinary watch clocks.

The Instrument will in all Cases be Warranted Perfect and Satisfactory.

P. O. Box 2470.

J. E. BUERK, Proprietor, No. 230 Washington St., BOSTON, MASS.

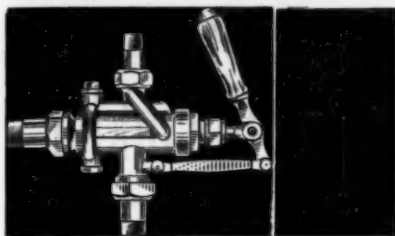
ESTABLISHED
IN 1843.



Am now prepared to sell GUNS, SHELLS, CARTRIDGES, POWDER, SHOT, CAPS, WADS, and everything in the line to fit the Sportsman out in the best manner, as low as any house in the United States. Call and be convinced. Guns made to order, and repaired by skilled mechanics. Goods sent by express C. O. D. and satisfaction guaranteed.

ALEX. McCOMAS,
22 South Calvert Street, BALTIMORE, MD.

LAWN MOWERS. Acme Huckle, Easy & Excelsior, new list, dis 40&10 LOCKERS AND LATCHES. Linen Fish.....dis 25&10 Wire Clothes, Galvanized, 100 feet.....dis 33.00 Cabinet, Eagle.....Changes made in list price Cabinet, Gaylord.....of some numbers Jan. 1, Cabinet, Bridgeport.....1881, dis 25&2 Cabinet, P. & F. Corbin.....dis 40 Trunk, new list, Jan. 1, 1881.....dis 15&2 Yale Lock Co., Flat Key.....dis 40 Plate.....dis 33&2 DOOR LOCKS, ETC. Bradford..... Norwalk..... Norwich..... P. & F. Corbin..... Russell & Erwin..... Mallory, Wheeler & Co..... Padlocks—Russell & Erwin..... Mallory, Wheeler & Co..... Norwich Lock Manf. Co..... Wm. Wilcox & Co..... Wm. Wilcox & Co's Plate Locks..... Yale Lock Manf. Co's "Standard"..... Romer's..... Conestoga..... Scandinavian, "Norwich"..... MALLETS. Penfield Block Co., Apple, Hickory and Lignumvitae..... MEAT CUTTERS. Dixon's (P. S. & W.) Nos. 1 2 3 4..... Perry's, Nos. 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187 188 189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204 205 206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221 222 223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245 246 247 248 249 250 251 252 253 254 255 256 257 258 259 260 261 262 263 264 265 266 267 268 269 270 271 272 273 274 275 276 277 278 279 280 281 282 283 284 285 286 287 288 289 290 291 292 293 294 295 296 297 298 299 300 301 302 303 304 305 306 307 308 309 310 311 312 313 314 315 316 317 318 319 320 321 322 323 324 325 326 327 328 329 330 331 332 333 334 335 336 337 338 339 340 341 342 343 344 345 346 347 348 349 350 351 352 353 354 355 356 357 358 359 360 361 362 363 364 365 366 367 368 369 370 371 372 373 374 375 376 377 378 379 380 381 382 383 384 385 386 387 388 389 390 391 392 393 394 395 396 397 398 399 400 401 402 403 404 405 406 407 408 409 410 411 412 413 414 415 416 417 418 419 420 421 422 423 424 425 426 427 428 429 430 431 432 433 434 435 436 437 438 439 440 441 442 443 444 445 446 447 448 449 450 451 452 453 454 455 456 457 458 459 460 461 462 463 464 465 466 467 468 469 470 471 472 473 474 475 476 477 478 479 480 481 482 483 484 485 486 487 488 489 490 491 492 493 494 495 496 497 498 499 500 501 502 503 504 505 506 507 508 509 510 511 512 513 514 515 516 517 518 519 520 521 522 523 524 525 526 527 528 529 530 531 532 533 534 535 536 537 538 539 540 541 542 543 544 545 546 547 548 549 550 551 552 553 554 555 556 557 558 559 560 561 562 563 564 565 566 567 568 569 570 571 572 573 574 575 576 577 578 579 580 581 582 583 584 585 586 587 588 589 590 591 592 593 594 595 596 597 598 599 600 601 602 603 604 605 606 607 608 609 610 611 612 613 614 615 616 617 618 619 620 621 622 623 624 625 626 627 628 629 630 631 632 633 634 635 636 637 638 639 640 641 642 643 644 645 646 647 648 649 650 651 652 653 654 655 656 657 658 659 660 661 662 663 664 665 666 667 668 669 670 671 672 673 674 675 676 677 678 679 680 681 682 683 684 685 686 687 688 689 690 691 692 693 694 695 696 697 698 699 700 701 702 703 704 705 706 707 708 709 710 711 712 713 714 715 716 717 718 719 720 721 722 723 724 725 726 727 728 729 730 731 732 733 734 735 736 737 738 739 740 741 742 743 744 745 746 747 748 749 750 751 752 753 754 755 756 757 758 759 760 761 762 763 764 765 766 767 768 769 770 771 772 773 774 775 776 777 778 779 780 781 782 783 784 785 786 787 788 789 790 791 792 793 794 795 796 797 798 799 800 801 802 803 804 805 806 807 808 809 810 811 812 813 814 815 816 817 818 819 820 821 822 823 824 825 826 827 828 829 830 831 832 833 834 835 836 837 838 839 840 841 842 843 844 845 846 847 848 849 850 851 852 853 854 855 856 857 858 859 860 861 862 863 864 865 866 867 868 869 870 871 872 873 874 875 876 877 878 879 880 881 882 883 884 885 886 887 888 889 890 891 892 893 894 895 896 897 898 899 900 901 902 903 904 905 906 907 908 909 910 911 912 913 914 915 916 917 918 919 920 921 922 923 924 925 926 927 928 929 930 931 932 933 934 935 936 937 938 939 940 941 942 943 944 945 946 947 948 949 950 951 952 953 954 955 956 957 958 959 960 961 962 963 964 965 966 967 968 969 970 971 972 973 974 975 976 977 978 979 980 981 982 983 984 985 986 987 988 989 990 991 992 993 994 995 996 997 998 999 1000 Perry's.....	
--	--



Buckeye * Injectors,

Lubricators, Wrenches, Etc.

For circulars address **CROSBY BROS. & CO.**
242 Lake St., Chicago, Ill.

J. H. RATTERMANN, President.
F. G. DUERR, Vice President.

The U. S. Varnish Co.

CINCINNATI, - - - OHIO.

258 and 260 Colerain Avenue.

CHICAGO BRANCH, - - No. 47 STATE STREET.
Mention this paper.

PATENTS

PROCURED, REJECTED APPLICATIONS
AMENDED AND PROSECUTED, IN-
VENTORS DRAWINGS MADE.
NO MODEL REQUIRED.

J. A. HURDLE,

Tribune Building, - - New York.

For Sale

- 1 50 Horse-Power Engine and Boiler, with Fittings.
- 3 Spoke Lathes (made by Gleason, Philadelphia.)
- About 40 Pulleys.
- 80 feet Shafting and Couplings for same.
- Saw Arbors, Boxes, a Facer, Tenoner and Throating Machine for the manufacture of Spokes.
- 1 (new) 25 horse-power engine, boiler and pump; never been used.

A bargain to any one wishing to buy either as a speculation or for use.

Address **E. T. ROBARDS, Sec'y,**
Henderson, Ky.



Sigourney Drill,

AND
10 inch Universal Hand Lathe

MANUFACTURED BY

The Sigourney Tool Co
HARTFORD, CONN.

Special Tools and
Light Machinery

Built by the Day or Contract.

Send for Circulars.
Correspondence Solicited.

THE BAY LINE

FORTRESS MONROE, NORFOLK and the SOUTH.

The Bay Line comprises the New and Elegant Steamers
"VIRGINIA," "CAROLINA" and "FLORIDA."

All the Comforts and Luxuries of a First-Class Hotel are afforded the Traveler. Spacious and Elegant Saloons and Staterooms, furnished with an especial view to comfort. Unsurpassed Cuisine, which is made a specialty with this Line. Elegant service and courteous attention. Steamers leave Baltimore daily except Sundays at 9 P. M.

At Old Point Comfort is located the SPLENDID HYGELA HOTEL, a Delightful Resort at all Seasons of the Year. For Tickets and Information, apply at Company's Office.

157 W. BALTIMORE ST., BALTIMORE,
Or on Board of Steamers.
D. J. HILL, Superintendent.
E. BROWN, General Ticket Agent.

Business Chances.

For the purpose of making the **MANUFACTURERS' RECORD** a still more valuable medium of communication between its readers North and South, we will publish, **FREE OF CHARGE**, short advertisements, not exceeding 40 words, from those in the South who have good business openings that they wish to bring to public notice, capital wanted for industrial enterprises, &c., &c.; while readers in other sections who desire to engage in manufactures at the South are also invited to use these columns, without cost, either in seeking information regarding the advantages and special claims of different localities, or for asking about good openings for men and money. This department is also free for Southern manufacturers who wish to advertise for mill managers, superintendents, engineers, &c.

In corresponding with any of these advertisers please mention the **Baltimore Manufacturers' Record**.

WANTED.—To a competent iron fence man having \$2,000 or \$3,000 to invest. We offer a rare chance. Address, Box 102, Chattanooga, Tenn.

BEING interested in quarrying fine Tennessee marble, I would like to correspond with some one having experience in sawing marble and with capital to invest, with a view to erecting a mill in connection with quarry. Address P. O. Box 72, Rogersville, Tenn.

ATLANTA.—Wanted party with \$3,000 to \$5,000 to join practical man in starting soap factory in this growing city; one who can sell goods and manage outside business. This is a fine opening. Address L. E. Boswell, Atlanta, Ga.

PARTNER WANTED to take an interest in a profitable manufacturing business in Middle Georgia. To a man with \$5,000 or more seeking investment and employment or investment alone, this is a fine opportunity. Address F. S. C., Macon, Ga.

PARTNER WANTED with \$5,000 to start a stove factory by parties representing over \$50,000 in real estate and having ample experience. A large profit can be made. Will guarantee the investment and \$5 per annum. Address Enterprise, Lock Box 27, Warrenton, Va.

WANTED.—A position in a sash and blind factory as foreman or master-workman; 12 years' experience; well up in all kinds of wood-working; can give best recommendations. W. T. L., care **MANUFACTURERS' RECORD**.

TO SOAP MANUFACTURERS.—The location of a soap manufactory is desired in a live and growing Southern city of 10,000 inhabitants, situated at the junction of two trunk lines of railroad, in the best section of the South, entirely free from malaria or epidemics. To a thoroughly practical man competent to manage the business and able to furnish half the capital required for a respectable establishment, inducements will be offered. Address Oil Mill, care **MANUFACTURERS' RECORD**, Baltimore, Md.

WANTED.—A party with \$3,000 to \$5,000 capital and a knowledge of manufacturing agricultural implements; business already established; one of the best locations; a good chance for a safe and profitable investment; the machines are covered by five patents, and well tested by 3 years actual use, and an increasing demand. Investigation solicited. For particulars, address A. C. Hendricks, Shenandoah Junction, W. Va.

SITUATION WANTED.—A young man having some education and experience in mechanical engineering, desires location South. Resigned position North to recover health impaired by severe Northern winters. Prefers subordinate position, as assistant to foreman or superintendent, with prospect of advancement. Address Engineer, care **MANUFACTURERS' RECORD**.

WANTED.—By a young man, a position as superintendent of a cotton-seed oil mill. Will take a mill that is leaving 15 per cent. of oil in the cake, and guarantee to reduce it to 8 or 10 per cent. Address "C," care "New South," Columbus, Miss.

WANTED.—By a young man—double-entry bookkeeper, good and rapid penman—a situation where bookkeeping, writing or mathematics are involved; good credentials. Will give careful and undivided attention to business. Address A, care **MANUFACTURERS' RECORD**.

A NEW manufacturing enterprise in the South wants more capital to provide facilities to meet increasing business. Splendid field; location all that could be desired; a fine opportunity for investment. Address D. S., care **MANUFACTURERS' RECORD**.

HAVING the requisite practical and some business experience, and an acquaintance that would be useful, I would like to engage with some cotton mill to take charge. Address A. E., care **MANUFACTURERS' RECORD**.

A SCOTCHMAN of 30 years experience in the cotton and woollen manufacturing trade, is open for engagement as manager, or in any capacity where his experience and practical knowledge would be required. Is thoroughly posted in all details. Address W. M., care **MANUFACTURERS' RECORD**.

WANTED.—A practical bucket maker. To the right sort of a man who has had experience in working cedar and white pine, and can run a shop successfully, a good inducement will be offered. Barker Manufacturing Company, Knoxville, Tenn.

WANTED.—By an energetic, live young man a partner with \$10,000 to \$20,000, to engage in the tobacco business in Piedmont, North Carolina. Best of reference given, showing him qualified to handle business. Address Tobacco, care **MANUFACTURERS' RECORD**.

WANTED by a qualified mining engineer a position as superintendent or manager of a mine in the South. Accurate mine surveys made and ventilation attended to. Address Geo. D. Stonestreet, Mining Engineer, Box 397, Birmingham, Ala.

A FIRST-CLASS MOULDER with moderate capital, also a pattern-maker, can secure an interest in a paying business in the South. Business now in fine condition, but without sufficient facilities to do all the work that can be secured. Additional capital needed. Address H. & Co., care **MANUFACTURERS' RECORD**.

I WANT a foreman for a furniture factory. J. H. Taylor, Greenville, S. C.

FOR SALE.—I offer for sale a half interest in pressed brick works making 1,000,000 pressed brick a month, and the management of the works to the buyer. The best paying property in North Texas. Demand for the brick unlimited. Address J. B., care **MANUFACTURERS' RECORD**.

Get the Best at First.

The Holyoke Machine Company, of Worcester, Massachusetts, advertise in this issue their well-known Hercules Water Wheel. This wheel has many points of merit that strongly commend it to the attention of those who use water power. The most thorough tests have demonstrated its many good qualities. In Holyoke it is the standard water wheel, the aggregate horse power of the Hercules wheels in operation there being greater than that of all other wheels combined. These wheels are very popular in the South as well as in the North, having been in use for many years in a large number of Southern mills. There are four of the Hercules wheels now in operation in the big cotton mills of the Eagle & Phenix Manufacturing Co., Columbus, Ga., and Mr. John Hill, of that company, in writing, Feb. 25, 1885, to the Holyoke Machine Co., said: "Within the past four years I have ordered four 'Hercules' wheels, all of which have given the purchasers entire satisfaction. Three of the wheels are on regular duty in the Eagle & Phenix Mills. The first wheel ordered did so well that a 'Hercules' wheel has been added each time a new wheel was wanted. In the Eagle & Phenix Mills I supervise twenty water wheels of six different styles. The 'Hercules' is by far the most durable and best made wheel in use here, and, in fact, I know of no wheel its equal mechanically. It is all that can be desired in economy of water. In fact, it is a strictly first-class wheel in every way, and the wheel to buy, use and depend upon."

That is a pretty strong letter, but it is only a sample of letters received by the manufacturers of this wheel. Among the recent shipment of wheels have been two—one a 34-inch and one of 60-inch—to a Georgia cotton mill. Two Hercules wheels are being put in at Natick Cotton Mill, and one at the Arctic Mill of B. B. & R. Knight near Providence. This will make eleven wheels furnished to this well-known firm, one of the most prominent in the manufacturing line in New England. Hercules wheels are sold in England, Ireland and Scotland, and on the Continent, a cable order having been received only a few days ago for one to go to France. The manufacturers say: "The Hercules gives the most power for its size and the highest average percentage from full to one-half gate of any wheel ever made." Their advice to all users of water wheels is to "get the best at first." If you are interested in water wheels, if you want a new wheel or a larger wheel, or a better wheel than you are using, write to the Holyoke Machine Co., Worcester, Mass., for catalogue No. 3.

Managers of mills, factories, furnaces, mines, etc., and parties starting manufacturing enterprises, and needing machinery or supplies of any kind, will find it profitable to consult the advertising columns of the **MANUFACTURERS' RECORD**. Its pages contain names of the best houses in the country among manufacturers of and dealers in machinery and mill supplies.

Factory For Sale or Lease.

The Atlanta Cotton Mill Supply Factory, completely equipped with the latest improved machinery for doing all kinds of wood, iron and foundry work, is for sale or lease. It is especially fitted to turn out all classes of cotton mill supplies, including looms.

This factory is situated in Atlanta, Ga., having a frontage of nearly 400 feet on the W. and A. R. R. Terms easy. Address

AARON HAAS,
36 Alabama St., Atlanta, Ga.

FOR SALE.

All the machinery complete for a first-class **Circular SAW MILL**, capacity 75 M feet per day. This machinery has not been used more than one year, is of the most improved patterns and in perfect order. Apply to

C. A. CHISOLM,
Charleston, S. C.

ENGINEERS and STEAM URERS
ATTENTION! The celebrated Cyclone Steam Flue Cleaners may be had at the Supply House of THOS. C. BASSHORE & CO., 25 Light Street, Baltimore, Md.

FOR SALE.

A Portable 20 Horse-Power Engine and Saw Mill, with large lot of timber, if desired, within 6 miles of Farmville, and 3 from railroad. Also one 8 Horse-Power Portable Engine, on skids, Horizontal Boiler, Talbot's make. It is now mounted on truck and used for threshing wheat. Address

FARMVILLE MANUFACTURING CO.,
Farmville, Virginia.

FOR SALE.

A Cotton Seed Oil Mill situated in the heart of the cotton region of Texas. The machinery is comparatively new and is in first-class condition. Railroad side track runs to the doors. Any one desiring to invest in this class of property should address—

Jas. H. Simpson Bank, Columbus, Texas.

Established 1867.
E. Harrington, Son & Co.
MANUFACTURERS OF
PATENT EXTENSION and
SCREW-CUTTING
LATHES,
Iron Planers,
Radial, Upright, Suspension,
Multiple and Lever
DRILLS,
and a variety of other
MACHINISTS' TOOLS
Patent
Double Chain Screw
Pulley Blocks.
Unrivalled for Durability,
Safety and Power.
Patent Double Screw
Quick-Lift Hoists,
with brake for quick and easy
lowering.
Circulars furnished.
Works and Office, Cor.
N. 15th and Penna. Ave.,
Philadelphia, Pa.
Represented by J. Q. MAY-
NARD, 12 Cortlandt St., N.Y.;
C. E. KIMBALL, 25 Oliver
St., Boston; W. H. RICKEY,
116 Main St., Cincinnati.

Bates' Hand Elevators.
Patented April 16, 1871. Reissued July 25, 1876.
OVER 6,000 IN USE.

Adapted for Warehouses, Stores, Factories, hotels, Public Institutions, and every place where merchandise, &c., is transferred from one story to another.

JAMES BATES, Patentee,
Nos. 1 3 & 5 President Street, BALTIMORE.

THE BRADSTREET Mercantile Agency

HAS NOW BEEN
Under its present successful management for
the past seven years,

And during that time its business has more than
trebled, while its facilities have propor-
tionately increased.

No expense is considered too great in obtaining
and applying to the conduct of the business
all possible improvements. With its present
system for obtaining and promulgating infor-
mation, this Agency is justly rewarded by its
patrons as authority on all matters affecting
commercial credit. Its ramifications are greater
and its business larger than any similar organi-
zation in the world conducted in one interest
and under one management.

You are respectfully invited to investigate,
and if in need of an Agency, to test its ability
to serve you.

CHAS. F. CLARK, President.

Baltimore Office,—American Building.

H. KERSHAW, Supt

TAPS & DIES
VISES
CHUCKS
DRILLS
STILLS
TWISTS
MACHINE
SCREWS
LATHES
FILES
STEEL
STOCKS

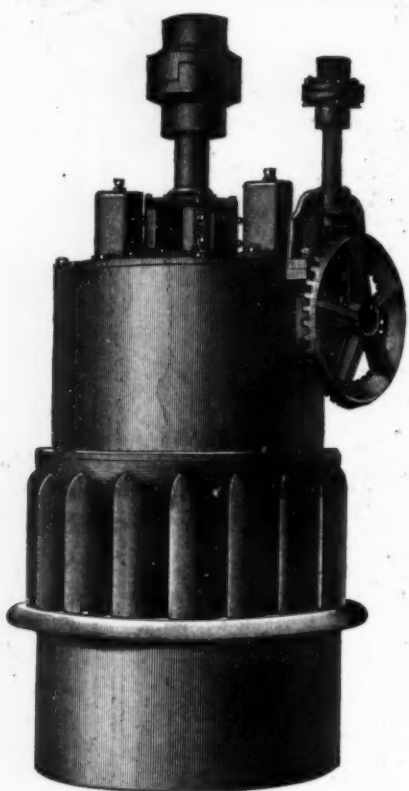
TOOLS for Machinists, Amateurs, Jewellers, Model
Makers, Blacksmiths, Carpenters, Coachmakers, etc.
Send 20 cts. for new Metal Worker's Catalogue, 300 Pages.
Wood Worker's Catalogue free.
FALLMAN & McFADDEN, Philadelphia, Pa.

UPRIGHT DRILLS
CUT-OFF TOOLS
STAP-DRILL GAUGE

Architectural Iron Works.
J. P. WALTON & CO.
CINCINNATI, OHIO.

Manufacturers of all kinds of IRON WORK for
building purposes.—Store Fronts, Columns, Lintels,
Joists, Stairs, Railing, Roof-Trusses, Doors, Shutters,
etc. Jail work a specialty. Write us for catalogues.

THE "HERCULES"



→ GET THE BEST. ←

A good Water Wheel increases the value of your whole plant. Get the best at first and avoid the expense and delay of changing wheels. A good wheel will serve you well for twenty years. The best is the cheapest,—it does more work, lasts longer, and costs no more for gears and setting than a common wheel. The HERCULES gives the most power for its size, and the highest average percentage from full to one-half gate, of any wheel ever made.

SEND FOR CATALOGUE NO 3.

HOLYOKE MACHINE CO., WORCESTER, MASS.

Wheels Now in Use in Holyoke, February 1st, 1885.

Name of Wheel.	Number.	Horse-Power Furnished.
Hercules.....	53	10,576
Boyden.....	38	5,398
American.....	10	825
Tyler.....	10	311
Hunt, Waite & Flint.....	7	375
Rifdon.....	6	440
Jonval.....	4	655
Swain.....	1	160
New American.....	1	65
Aousten.....	1	75
Victor.....	2	150
Total.....	133	19,030

EAGLE & PHENIX MANUFACTURING CO.,

COLUMBUS, GA., Feb. 25, 1885.

HOLYOKE MACHINE CO., STEPHEN HOLMAN, Treas.:

Dear Sirs—Within the past four years I have ordered four "Hercules" wheels, all of which have given the purchasers entire satisfaction. Three of the wheels are on regular duty in the Eagle & Phenix Mills. The first wheel ordered did so well that a "Hercules" wheel has been added each time a new wheel was wanted. In Eagle & Phenix Mills I supervise twenty water wheels of six different styles. The "Hercules" is by far the most durable and best made wheel in use here, and, in fact, I know of no wheel its equal, mechanically. It is all that can be desired in economy of water. In fact, it is a strictly first-class wheel in every way, and the wheel to buy, use and depend upon. Yours truly, JOHN HILL.

CONNECTICUT RIVER PULP MILL.,

HOLYOKE MACHINE CO., HOLYOKE MASS., November 24, 1884.

We are now using 22 "Hercules" wheels, under heads from 12 to 40 feet, and they have always given satisfaction. We have used a variety of Turbines, but where economy in the use of water is required nothing equals the "Hercules." In every respect they are first class.

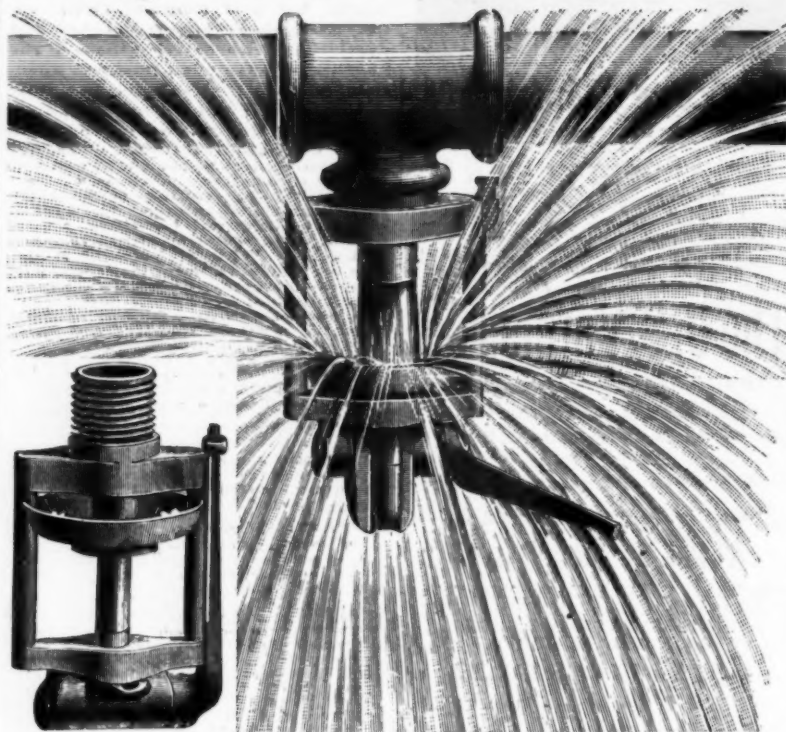
D. H. & J. C. NEWTON.

GEORGE R. DICKINSON PAPER CO.,

HOLYOKE MACHINE CO., HOLYOKE, MASS., December 17, 1884.

Gentlemen—We started our mill with three "Hercules" wheels. We raise the gates Monday morning and close them Saturday night. They have never cost us a cent for repairs nor caused us a moment's delay. We want nothing better. Yours very truly. GEORGE R. DICKINSON, Treas.

WALWORTH Strong Sensitive Link Sprinkler.



THE WALWORTH STRONG SENSITIVE LINK SPRINKLER, for the extinguishment of fires, having for its most salient points

STRENGTH, SIMPLICITY AND RELIABILITY, has forced its way to the front solely because it has been proved to be the best Sprinkler made. No Sprinkler ever introduced has shown such good results. In no instance has it failed to act when needed, notwithstanding the fact that it has been severely tested in many instances.

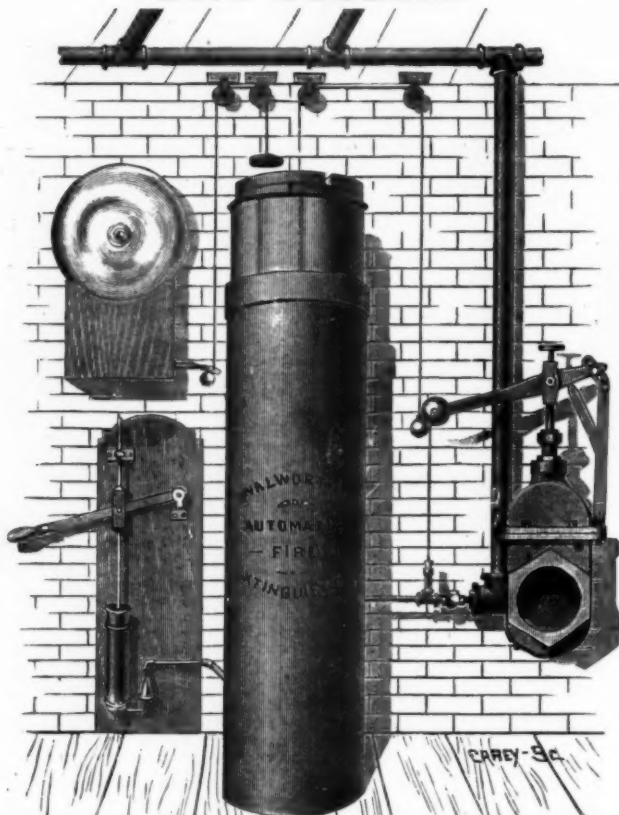
We give below the account of a remarkable fire:

MESSRS. WALWORTH MANUFACTURING CO.:

GENTLEMEN—On Sunday evening fire was discovered in our engine room, and in five minutes had worked its way through a belt box to the fourth floor. For a few minutes it looked as if the place must go, but the automatic heads on each floor near the fire went off and quickly extinguished it without assistance from hose or anything else. Had there been sprinklers in the engine room, fire could not have got beyond it, and we will be pleased to have you put them in this room at your earliest convenience. After the fire was out we shut the water off at tanks, put on new rings at the eleven heads which had gone off, and with water on started in full next morning as though nothing unusual had taken place.

WALWORTH Automatic FIRE Extinguisher.

DRY SYSTEM.



By this system the pipes are filled with compressed air under a pressure of one pound to the square inch. Attached to the pipes is an Airometer, the inner tank having a weight upon it of 100 pounds. This tank and weight is raised by the compressed air, and as soon as a Sprinkler is opened the pressure, being released, allows the tank and weight to fall, thus opening a valve and either starting the pump or releasing the water from tank or street mains. It is so arranged that an alarm will sound just before the valve is to be opened, notifying that there is a fire, or that more air must be pumped. The entire supply of air can be produced by a few strokes of the air pump. Manufactured by the

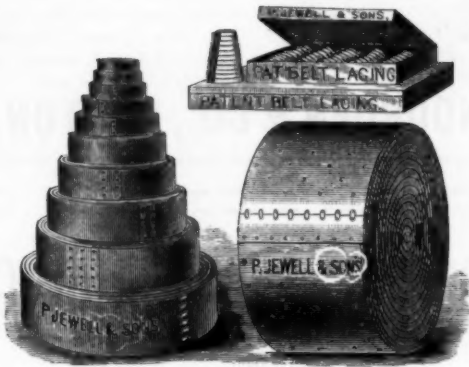
Walworth Manufacturing Co.

No. 16 Oliver Street, BOSTON.

JEWELL BELTING CO.

SUCCESSORS TO

P. JEWELL & SONS,



—MANUFACTURERS OF—

LEATHER * BELTING

—AND—

LACE LEATHER,

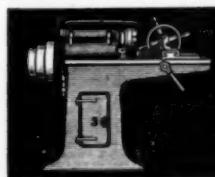
HARTFORD, CONN.

DO YOU USE STOVE REPAIRS?

Having a Stock of Repairs for over 12,000 different Stoves, can we not make it to your advantage to trade with us?
PROMPT SHIPMENTS AND SATISFACTION GUARANTEED.

The W. C. Metzner Stove Repair Co.

125 & 127 W. Randolph Street, - - CHICAGO.
CATALOGUE SENT FREE.



ADAMS & PRICE MACHINERY CO.
 SOLE MANUFACTURERS OF THE
 NEW AND IMPROVED PRINCIPLE
 ADAMS PATENT AUTOMATIC
BOLT AND NUT THREADING MACHINES
 35 to 41 INDIANA ST. CHICAGO.
 SEND FOR ILLUSTRATED & DESCRIPTIVE CATALOGUE.

COMMON SENSE ENGINES.



From 2 to 10 Horse power. Boiler wrought iron.



Best CORN MILL in the World for plantation and farm purposes.



Stationary Engines from 6 to 100 Horse Power. Portables from 6 to 25 H. P.
COMMON SENSE ENGINE CO., Springfield, Ohio.

HUGH SISSON & SONS,

140 W. Baltimore St., Baltimore,

MANUFACTURERS OF

Marble Monuments

Tombs, Altars, Counters,
 Furniture Slabs, Mantels, Tiles.

Estimates and Drawings Free.

Many Steam Fitters and Machinists are of the opinion that the

POWELL PATENT REGRINDING "STAR"

And Crescent Globe Valves

are the very best in use. The Star Valves are also made extra heavy for Steam Boat use. Every Valve warranted for one year if handled and used with ordinary care.



POWELL'S PATENT SIGHT-FEED LUBRICATORS and Glass Engine Cups insure a great saving in oil. Specifications should call for **—THE— Powell Star Valves.**

WM. POWELL & CO., Manufacturers,
 50, 52 and 54 Plum Street, Cincinnati, Ohio.
 Sold by all the dealers in Steam Fitters' Supplies throughout the Southern States.



Trade: Send for cuts: Gratis.
 Send for circulars: Gratis.
 Send 10 cents for Book of Rules.

THE LIGOWSKY Clay Pigeon Co.
 Box 1,292, Cincinnati, Ohio.

E. W. BLISS,

—MANUFACTURER OF—

Presses, Dies,

—AND—

SPECIAL * MACHINERY

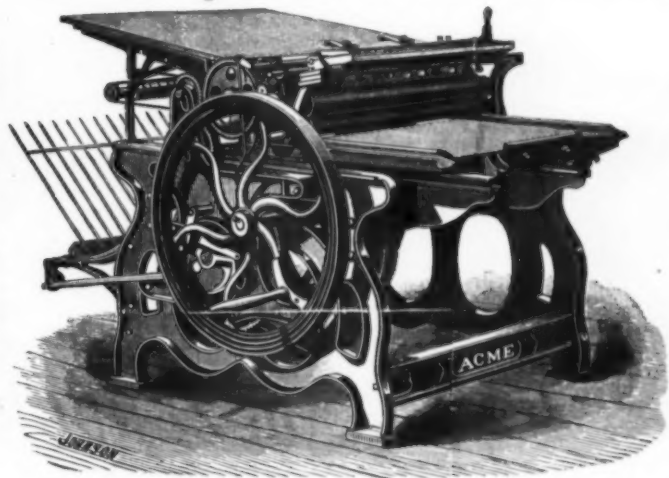
FOR WORKING SHEET METAL.



Double Seaming Machines, CIRCULAR SHEARS, Squaring Shears,
 Canning Machinery, &c.

17 ADAMS ST., BROOKLYN, N. Y.

The ACME Improved Two-Revolution Press.



FOR NEWSPAPER OR JOB WORK.

FOR STEAM OR HAND POWER.

These Presses combine, in a thoroughly perfected machine, many features whose value will be readily appreciated, including several which have never been practically developed by any Cylinder Press. Among these features are: Compact and firm in all its adjustments; the most perfect two-roller ink distribution; speed combined with perfect registration; slow movement of the bed during the impression, and quick return; suspending the impression; suspends the grippers, guides and ink; ink can be distributed without inking form; unlimited rolling of the form; composition rollers interchangeable; feeder can suspend action of the ink fountain; impression adjustable while the Press is in operation; whole form accessible for correction on the Press; quiet operation without jar; great saving in wear of type; convenient height of bed.

The present hand-power Acme Presses fully equal, in capacity for fine work, the first-class two-roller Presses of other kinds, and they run much easier, and are also capable of higher speed by steam than any other Cylinder Press manufactured for country offices or for hand operation. The convenience of changing from newspaper to poster and job work is unequalled.

PRICES, - - \$900 to \$2,500.

Circulars, with sizes and prices, will be sent on application.

C. C. CHILD, MANUFACTURER,
 64 Federal Street, Boston, Mass.

IRON ROOFING
SIDING, CEILING,
ARCHES AND LATH.
CINCINNATI
CORRUGATING CO.
CINCINNATI, O.
SEND FOR ILLUSTRATED CATALOGUE.

CORRUGATED

CRIMPED

Keep Your Steam Boilers Clean!

"An Ounce of Prevention Worth a Pound of Cure."

SAVE YOUR FUEL!

Warner's Purifier and Heater

[PATENTED JULY 21, 1885.]

The best way to *cure* your steam boilers of incrustation and sedimentary deposit is to *keep out of* the boiler that which causes incrustation and sediment.

The chief ingredients causing sedimentary deposits and incrustation are organic matter, carbonate of lime, sulphate of lime, carbonate of magnesia, sulphate of sulphure of iron, and in salt water common salt.

The WARNER PURIFIER AND HEATER is the only machine which precipitates all impurities held in suspension, heats the water to the boiling point under full boiler pressure, separates and precipitates the mineral salts held in solution *before the water reaches the boiler*, and then injects the water thus purified into the boiler *boiling hot*. It is an automatic machine, entirely *outside of the boiler*, requiring absolutely no attention from the engineer except to blow off the accumulation of deposit from the bottom of the machine which acts as a mud-drum. All this is accomplished without the use of chemicals, by a purely mechanical process, regulated by the principles of natural philosophy.

No more "shutting down" of work to clean boilers—the machine does it *every day* without interfering with the work, and by removing scale and preventing its formation, and heating the water to the boiling point *saves a large percentage of fuel*.

The WARNER HEATER AND PURIFIER COMPANY is now ready to furnish these machines on demand at very reasonable figures.

WASHINGTON, D. C., May 23, 1885.

This is to certify that I have made a careful examination of "Warner's Combined Purifier and Heater of Feed Water" in practical operation at the "Harris House" and "Post Building," in this city, and do not hesitate to pronounce it the *best machine* for the purpose ever invented. By its use the water goes into the boiler free from all impurities and heated to the boiling point under full boiler pressure, and as the result of the injection of pure water, the boiler is freed from scale and *kept clean*, while a large saving is made in fuel by the removal of the scale and heating the water to the boiling point *before it enters the boiler*. By the use of this machine the necessity of "shutting down" in order to blow out and clean the boiler is wholly obviated, as the impurities are all collected in the bottom of the machine, which can be blown out as many times a day as the engineer thinks proper without interfering with the workings of the boiler. I confidently commend this machine to all persons who own or use steam boilers, and am satisfied that its use will prolong the life of the boiler and make a handsome saving in the use of fuel.

Very respectfully,

(Signed) JOHN H. WILKERSON,

Inspector of Steam Boilers for District of Columbia, 220 7th Street, S. E.

"HARRIS HOUSE," COR. PENNSYLVANIA AVENUE AND E STREET, N. W.

WASHINGTON, D. C., June 23, 1885.

This is to certify that one of "Warner's Purifiers and Heaters of Feed Water" has been in use on one of the boilers of the Harris House, in this city, for three months, and has proved a perfect success. The boiler upon which the machine was placed was at the time covered with a heavy scale composed of animal and vegetable matter, lime, &c., which, by the use of this machine, has been entirely removed, the boiler being now as clean as when it came from the boiler-maker. This has been entirely accomplished, without the use of chemicals, by the injection of pure water through the "Purifier and Heater." This machine injects the water into the boiler heated to the boiling point under full boiler pressure, and by this means, together with the removal of the scale, results in a large saving of fuel. It is also invaluable in the purification of the water for laundry purposes. The machine is self-acting, and prevents the necessity of "shutting down" in order to blow out the boiler, as the impurities are all concentrated in the bottom of the machine, and can be blown out through the machine as often during the day as the engineer may deem advisable without interfering with the working of the boiler. I am convinced that its use will prolong the life of all boilers upon which it may be placed, save a large percentage of fuel, decrease the danger of explosion, purify the water for all purposes, and give general satisfaction. I confidently commend it to all hotels using steam and to owners of steam boilers generally as a much needed improvement that will do the work claimed for it thoroughly.

(Signed) JOHN H. HARRIS, Proprietor of Harris House, Washington, D. C.

WASHINGTON "POST" BUILDING, WASHINGTON, D. C., June 23, 1885.

This is to certify that one of "Warner's Purifiers and Heaters of Feed Water" was placed upon the boiler of the Post Building about 60 days ago as a test. At that time the boiler was covered with a heavy scale of animal and vegetable matter, lime, &c., which it was impossible to prevent. By the use of this Purifier and Heater, which injects the water into the boiler free from all impurities and heated to the boiling point, the scale has been removed and the consumption of coal reduced. The machine works itself and is invaluable as a purifier of water to all branches of business requiring pure water, such as hotels, laundries, &c., and a much needed adjunct to all steam boilers, prolonging their life, decreasing the danger of explosion and effecting a large reduction in the consumption of fuel. I confidently commend Warner's Purifier and Heater to all owners of steam boilers, being confident that their interests will be subserved by its use.

(Signed) J. FRANK MCGUIRE, Superintendent and Engineer Post Building.

ADDRESS,

Hon. JOHN F. DEZENDORF,

Room No. 35 Corcoran Building,

—WASHINGTON, D. C.—

FRED. J. MEYERS MFG. CO.
COVINGTON, KY., Manufacturers of
WIRE GOODS OF ALL KINDS,
Wrought-iron Fencing, Cresting and Hardware Specialties.
Send for Illustrated Catalogue and Price List.

Conductors' Punch. Flower Stand. Wrought-iron Fence. Chair. Revolving Punch. Sand Screen. Window Guard. Sand and Grain Riddle. Wire Counter Railing. Mocking Bird Cage.

BEST ROOF
In the World is the Montross Patent
METAL SHINGLES
Cheap, Durable, Handsome, Fireproof.
Absolutely Water-tight.
Proof against Storms, Snow and Ice.
Can be put on by anybody.
Adapted for all classes of Buildings.
Send for Circulars and Price Lists, free.

E. VAN NOORDEN & CO., BOSTON, MASS.

T. C. SNYDER & CO.
—MANUFACTURERS OF—
IRON ROOFING, SIDING AND CEILING,
(The H. W. Smith Patent is the Best in use.) AND JOBBERS IN
PLAIN, CORRUGATED, CRIMPED, BEADED. IRON ORE, PAINT, CEMENT, And Roofers' and Builders' Papers.

—PATENT CALAMINED IRON IN QUANTITIES—A New Thing.

Coating is indestructible, will not scale, is soft, solders more strongly and is superior to Galvanized Iron or Tin for all purposes. Protected both in body and surface. Circulars, Price-List and Sample mailed at request.

—CANTON, OHIO.—

ONLY ASPHALT PAINT AND VARNISH WORKS IN THE UNITED STATES.

The **Louisville Asphalt Varnish Co.** Warrants its

ASPHALT IRON PAINT

equal to any "metallic," because made from the best Iron Oxide and Linseed Oil; and superior to them and all rivals, because it alone adds the Varnish Gum "ASPHALTUM," which not only hardens the surface and preserves the elasticity of the paint, but resists the action of all gases, acids and alkalies—the rusting elements. Approved in theory and in practice as THE BEST for all exposed surfaces, on Cotton Seed Oil Mills, Factories, Compresses, Warehouses, Hulls and Decks of Ships, Railroad Depots, Cars, Bridges, Trestles, etc. Colors: Red, Brown and Black. Ready for the brush. No sample cards, but the paint itself, on new tin, sent to any property owner on application. Our

STACK BLACK

will prolong the life of your iron chimneys, large or small. It bakes on and will not scale off like coal-tar products.

ASPHALTUM BLACK VARNISHES.

A full line for Manufacturers, the Trade and Family use. Address, (mentioning this paper.)

LOUISVILLE ASPHALT VARNISH CO.,

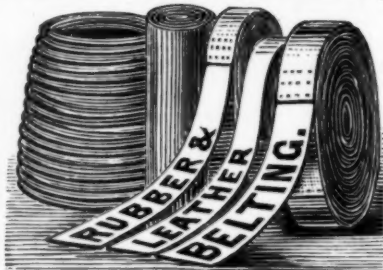
19 and 20 Courier Journal Building, - - - LOUISVILLE, KY.

THE BILLINGS & SPENCER CO.
HARTFORD CONN.
MANUFACTURERS OF SCREW PLATES AND
DIES MADE IN 5 SIZES CUTTING
THREADS FROM 1/16 OF AN INCH
TO 2 INCHES V. THREAD ALSO
U.S. STANDARD AND WHITWORTH THREAD.
DROP FORGED OF BAR STEEL.

ATLANTA RUBBER COMPANY,
ATLANTA, GA.

RUBBER BELTING,
PACKING, HOSE, &c.
PURE OAK LEATHER BELTING,
MILL SUPPLIES AND
ALL KINDS OF RUBBER GOODS.

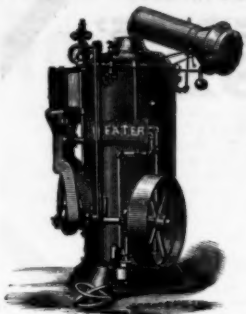
AGENTS:
NEW YORK RUBBER CO'S BELTING, &c.
HOYT'S LEATHER BELTING.
NEW JERSEY RUBBER SHOE CO.



Southwark Foundry & Machine Co.

430 WASHINGTON AVE., PHILADELPHIA, PA.

Porter-Allen and Southwark Engines, Blowing
Engines, Gas Apparatus, Hydraulic Machinery.



ARMSTRONG BROS.

Vertical Engines

MANUFACTURERS AND BUILDERS OF

Of from 6 to 10 Horse-Power, and
STATIONARY ENGINES

Of from 10 up to 100 Horse-Power; also **STEAM BOILERS** of all
sizes of either Steel or Iron. Send for Catalogue and Price-List.

ARMSTRONG BROS., Springfield, Ohio.

HENLEY'S CHALLENGE ROLLER SKATE.

THE LATEST AND BEST
And Most Complete Scientific

SKATES IN THE MARKET

HENLEY'S IMPROVED CHALLENGE
RINK AND CLUB SKATES
LIBERAL TERMS TO THE TRADE.

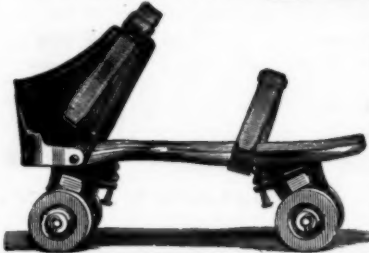
For prices, circulars and further particulars, address:

M. C. HENLEY, Patentee and Manufacturer

RICHMOND, IND.

Send four-cent stamp for new forty-page Illustrated Catalogue.

MENTION MANUFACTURERS' RECORD.



THE RICHMOND GLOBE ROLLER SKATE,

The Easiest Running, Most Durable, and Most Practical Skate in the Market.



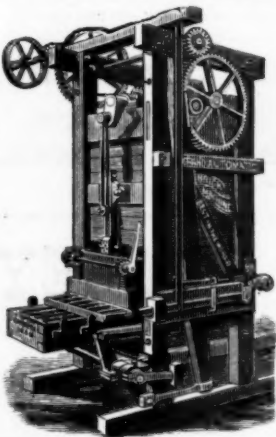
Rink men and jobbers will find the
"GLOBE RINK" skate to be superior
to all others, because:

It has no springs, rivets or pins to break,
get loose or wear out. It will not crush the
rubber cushion, as their new connecting
plate prevents crushing. The wearing of the
bearings being automatic, the truck
frame will not become loose or rickety
from long usage. The tension is easily
regulated by means of the draw-bolt, to
suit the requirements of any skater. The
truck frame can be instantly detached
without removing the draw-bolt. It is
light, strong, durable, and skaters pronounce
it the best skate made.

We especially call the attention of the
skaters of America to our *New Half-Clamp
Corrugated Steel Bottom
Skates*, in which we pride ourselves in
having the *Lightest, Strongest and
Handsomest Skate in the World*.

For prices and catalogues address

**MITCHELL & VANNEMAN,
RICHMOND, IND.**



The GRAND AUTOMATIC Brick Machine.

Well Tempered Brick are the Most Reliable.

The Grand Automatic makes the best tempered
Brick in the world. It is the only Machine that
makes better brick in every respect than can be
made by hand. Send for catalogue to

JONATHAN CREAGER,

131 E. Front St., Cincinnati, O.

Attention!

Architects and Construction Companies.

WE HAVE SPECIAL FACILITIES FOR

PHOTOGRAPHING MACHINERY,

—RAILROADS AND BRIDGES.—

We also carry in stock Photographs of

BROOKLYN BRIDGE,
NEW YORK ELEVATED R. R.
BROOKLYN ELEVATED R. R.
SUBURBAN RAPID TRANSIT CO.

Showing
Construction.

ALSO,
DOCKS,
STEAMERS,
PUBLIC BUILDINGS.

Estimates and catalogues furnished on application to

CEO. P. HALL & SON, Photographers,

157 Fulton Street, NEW YORK.

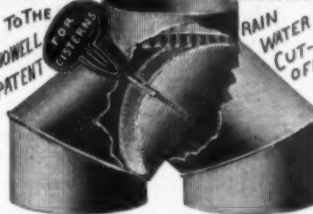
PORTABLE FORGES

Empire Portable Forge Co.
Cohoes, N. Y.

Send for Catalogue.

HOWELL'S Patent RAIN WATER CUT-OFF

HIGHEST PREMIUM AWARDED
WHEREVER EXHIBITED



RECOMMENDED BY ARCHITECTS, BUILDERS
USERS, EVERYWHERE.

For turning water into or off from the cistern. The
handle, which is an iron weight, insures the bucket remain-
ing where placed and entirely prevents its being turned by
the downflow of water. The bucket or valve passes behind
the rim at the top and overlaps at the bottom, thus securing
perfect water joints at both connections. We manufacture
all sizes from 2 1/2 to 24 inches; 2 1/2 inch, \$5; 3 inch, \$6; 3 1/2
inch, \$8; 4 inch, \$9; 5 inch, \$14; 6 inch, made of 1X Tin,
\$20. These sizes are always in stock.

Packed in crates of one dozen each size up to 5 inch; 5
and 6 inch in crates of 1/2 dozen each; f. o. b.; no charge
for crates. For sale by dealers all over the United States.

G. W. HOWELL, Manufacturer, COVINGTON, KY.

DIETZ, WILL & CO.

Wood-Working Machinery.

BAND SAWS, UNIVERSAL SAW
BENCH, SAW MANDRELS, PONY
PLANERS, MATCHERS.

Shafting, Pulleys and Hangers, Wood
Turning and Pattern Makers' Lathes.

186 to 191 PEARL STREET,
Cincinnati, O.



Established 1868.

Incorporated 1879.

Perforated METALS

—FOR—

COTTON GINS,
Cotton Seed Oil Mills,
RICE MILLS,
And all other Purposes.

For catalogues, prices, &c., address

**The Robert Aitchison
Perforated Metal Co.,
76 E VAN BUREN ST., CHICAGO, ILL.**

Covert's Patent Web and Rope Halters.

The Best and Cheapest in the World.

TRY THEM and YOU WILL USE no OTHER

These Halters, for Quality
and Durability, surpass
all others made.

FOR SALE BY ALL LEADING JOBBERS
AT MANUFACTURERS' PRICES.

Send for Illustrated Catalogue and Price-List.

**COVERT MAN'FG CO., Sole Manufacturers,
WEST TROY, N. Y.**



THE ATLANTA WIND ENGINE COMPANY,

235 Marietta St., ATLANTA, GA.

ECLIPSE WIND MILLS AND PUMPS.

MANUFACTURERS OF

Cypress & Yellow Pine Tanks,

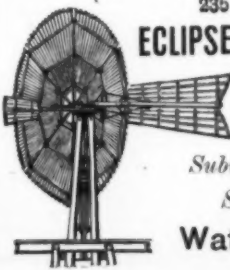
Geared Mills, Grinders, etc.

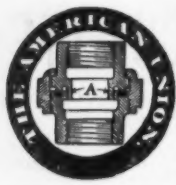
Suburban Water Works, and for

Stock Farms, Irrigation, Etc.

Water Works for Towns and Cities.

STEAM PUMPS FOR ALL PURPOSES. WRITE FOR CATALOGUE.





THE man who has once tried the **American Union** is the man who has given up cutting Rubber-Packing Rings.—Why? Because he knows it don't pay him.

The "American" Union is an Extra Heavy, Malleable Iron Union, which requires NO PACKING or preparation of any sort to make a perfect and permanent joint that will withstand the action of Live Steam, Water, Gases, Acids, Ammonia, Brine, etc., etc.

Steam Fitters

who do only FIRST-CLASS WORK, and will not therefore trust the common rubber-packed UNION on any steam job, will find the AMERICAN makes in a moment a PERFECT JOINT that will last indefinitely. The knowledge of this **ONE FACT** sells the AMERICAN UNION.

Plumbers

who find that in very wet or exposed situations (especially in work underground) ordinary packings soon rot out, can secure with the "AMERICAN" UNION joints that will LAST AS LONG AS THE PIPES CONNECTED BY IT.

They will also find it reliable for Chemical Plumbing and for use with Ammonia, Acids, Oils, etc.

The next time you order Fittings of any Dealer, ask for a SAMPLE AMERICAN UNION to come with them, and it will speak for itself.

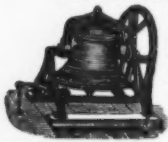
MANUFACTURED BY

PANCOAST & MAULE,
PHILADELPHIA, PA.

MENTION THIS PAPER WHEN YOU ADDRESS US.

McShane & Bell Foundry

Fine Iron and Brass Castings Made to Order.



Manufacture those celebrated Bells for Tower Clocks, Court-Houses, Cotton Mills, Factories, &c. Prices and catalogues sent free. Address **H. McSHANE & CO.** Baltimore, Md.

J. W. LOANE,

13 N. Gay Street, BALTIMORE.

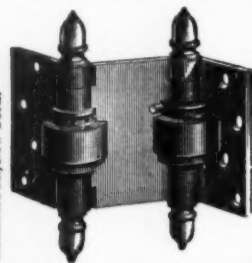
Manufactures and sells at lowest rates

TENTS, AWNINGS, FLAGS

Canvas Horse Covers, Plain and Oiled, Yellow and Black.

GIVE HIM A CALL. ORDERS OR ENQUIRIES BY MAIL RECEIVE PROMPT ATTENTION.

UNION SPRING HINGES are Simple, Easily Set, cannot be put on wrong. They work either way, left or right. For Wire Screens and other uses they have no equal. Send for Catalogue to J. H. HARRISON, Sole Agent, 19 Chambers St., New York.



BERNHARD DIETZ, Manufacturer of Printers' Rollers, and Roller Composition. Factory, cor. Light and Mercer streets, Baltimore. Prices: Composition, (bulk) 30 cents per lb.; for Casting, also, 30 cents per lb. Order by Mail promptly attended to.



W. J. CLARK & BRO. Manufacturers of Hydrants

These Hydrants are made of the best material, and are guaranteed to be entirely non-wasting and non-freezing. The works of these Hydrants can be taken out and repaired without breaking the ground. Send for circular.

38 N. Holliday Street,
BALTIMORE, MD.

1837. NOVELTY WORKS. 1883.

JAMES MURRAY & SON, Machinists and Millwrights

Engines and Boilers, Mills of all kinds, Marine Railways, &c. Improved Clay Tempering Machinery, Steam or Horse Power. Phosphate Machinery, Crushers, Rollers, Mixers, &c., &c.

40, 42 & 44 York Street,
NEAR LIGHT, BALTIMORE.

Repairing of all kinds promptly done.

Established 1793.



H. BALDERSTON & SON,
MANUFACTURERS OF

WIRE GRATING FOR WINDOWS

Doors and Office Railing, Wire Screens for Banks, Churches and Store-Fronts. Woven Wire, Wire Tree-Guards, Sieves, Screens for Coal, Sand, &c.

66 S. Calvert Street, Baltimore.

WIRE RAILING

and Ornamental Wire Works.

DUPUR & CO. 36 N. Howard St., Baltimore.

Wire Railing for Cemeteries, Lawns, Gardens, Offices and Balconies; Window Guards, Tree Guards, Wire Cloth, Sieves, Fenders, Cages, Sand and Coal Screens, Iron Bedsteads, Chairs, &c.



FARMERS and OTHERS having spring or running water, can have the water conveyed to their premises by using a Hydraulic Ram. More than 800 different styles and sizes. Lift and Force Pumps, Hydraulic Rams, Etc. Send for circular and prices.

RUNNEY & CO.
Seneca Falls, N. Y., U. S. A.

W. L. MERSFELDER.

MORGAN L. SMITH.

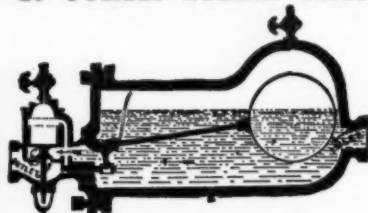
CINCINNATI PATTERN WORKS.

Stove Patterns a Specialty.

Artistic, Architectural and Machine Patterns Of Every Description Made on Short Notice.

N. W. COR. FRONT & PIKE STS.
Jobbing Promptly Done. CINCINNATI, O.

The CURTIS STEAM TRAP.



Has main valve outside. Air valve inside.

MANUFACTURED BY
Curtis Regulator Co., 158 Beverly St., Boston.

GENERAL AGENCIES:—

109 Liberty St., New York; No. 19 N. 7th St., Philadelphia; 86 and 88 Market St., Chicago; No. 49 Holliday St., Baltimore; No. 707 Market St., St. Louis; No. 745 Craig, Montreal.

NELSON CURTIS, Agent.



(Awarded First-Class Medal at New Orleans.)

STEPHENS' VISES.

With STEEL FACED or SOLID STEEL SLIDING JAW, and ADJUSTABLE ATTACHMENTS. Superior in Make, Grip, Strength and Durability, and more economical in Time and Labor than any other Vise. Jewelers, Machinists in general, and Car and Locomotive Builders in particular, will find them especially adapted to their need. Also STEPHENS' PATENT PLANER CHUCKS. Sold by hardware, machinery and tool dealers. Send for descriptive circular and price-list.

MELVIN STEPHENS, Proprietor,
Office, 41 Dey St., NEW YORK.

THE BLESSING PATENT RENEWABLE SEAT.

Phosphor Bronze Stop and Check Valves.

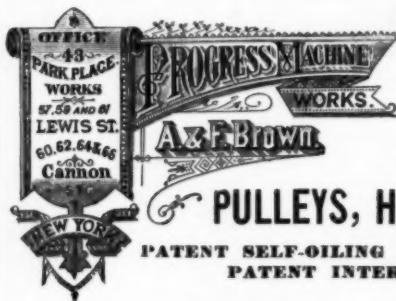
The Renewable SEATS and DISCS are cast from the best PHOSPHOR BRONZE METAL, which has lasting qualities, double that of the best Steam Metal commonly used in first-class valves.

The Seats do not have to be screw-d in and out, but are simply dropped into their places, and are held in position by the bottom of the cage, which is cast on cap.

ALSO, RETURN STEAM TRAPS.

MANUFACTURED BY

The Albany Steam Trap Co.,
Office and Works,
78 and 80 CHURCH STREET,
ALBANY, N. Y.



PATENT STEEL SHAFTING

Of Superior Quality.

PULLEYS, HANGERS, COUPLINGS, &c.

PATENT SELF-OILING HANGERS,
PATENT INTERNAL CLAMP COUPLINGS,
PATENT FRICTION CLUTCHES.

A. & F. BROWN, 43 Park Place, N. Y.

STUEBNER & WOODS

168 & 170 E. Third St., Hunter's Point
LONG ISLAND CITY, N. Y.

MANUFACTURERS OF

COAL DEALERS AND STEVEDORES' SUPPLIES.

STEEL and IRON COAL TUBS,

Side and Bottom Dumping Cars, Coal and Coke Barrows,

HOISTING BLOCKS, ETC.

Send for Circulars, &c.

PATENT CLASP PULLEY

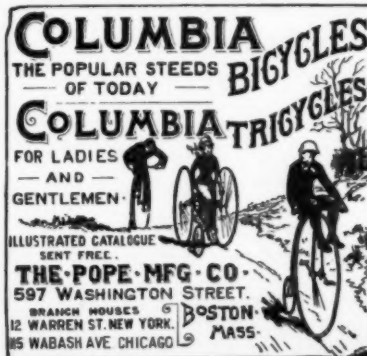
Made in Halves. Same Price as Whole Pulleys.

Shafting, Hangers.

Castings of Every Description Made. Stationary, Distillery, Mill and Boiler Work.

JNO. N. MARQUETTE,

No. 6 W. Falls Avenue, Baltimore, Md.



COLUMBIA BIGYGLES
THE POPULAR STEEDS OF TODAY
COLUMBIA TRIGYGLES

FOR LADIES AND GENTLEMEN

ILLUSTRATED CATALOGUE SENT FREE.

THE POPE MFG. CO.
597 WASHINGTON STREET,
BOSTON, MASS.
BRANCH HOUSES:
12 WARREN ST. NEW YORK
95 WABASH AVE. CHICAGO

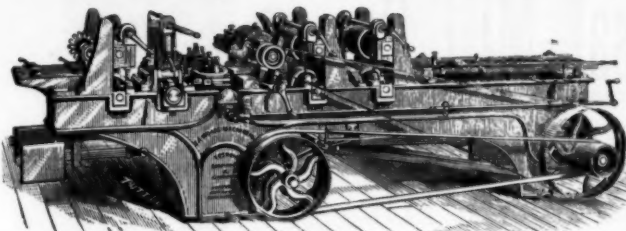
Steam Boilers

JOHN T. COLEMAN & SONS,
Steam Boiler Works,

Cor. Holliday and Pleasant Sts., Baltimore.

Manufacturers of all kinds of Steam and Bath Boilers, Smoke Stacks, Water Tanks, Lard Kettles, &c. Particular attention given to repairs.

Wood-Working Machinery



FOR
Railroad Shops,
Planing Mills,
Car Builders,
Cabinet, Carriage,
Sash, Door
Blind Makers.

We received eight First-Class GOLD MEDALS at the World's Exposition, at New Orleans, La., on our Machinery, awarded by an Experienced and Practical Committee.

GOLD MEDAL for best Fast-Feed Flooring Machine.

GOLD MEDAL for best Molding Machine.

GOLD MEDAL for best Endless Bed Double Surfer.

GOLD MEDAL for best Jointing Machine.

GOLD MEDAL for best Circular Saw Machine.

GOLD MEDAL for best Planing Machine for Matching two Boards at a Time.

GOLD MEDAL for best Panel Planer.

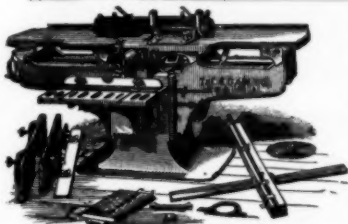
GOLD MEDAL for best Shop Surfer. Illustrated Catalogues on Application.

S. A. WOODS MACHINE CO.

WAREHOUSES:

91 LIBERTY STREET, 172 HIGH STREET, 61 S. CANAL STREET,
New York. Boston. Chicago.

Wood-Working Machinery



Of the Latest and most Improved Designs for
Planing Mills, Furniture and Chair Factories
and Agricultural Works, Carriage and
Buggy Shops, and

GENERAL WOOD WORKERS.

MANUFACTURED BY

THE EGAN CO.

228 to 248 West Front St., Cincinnati, O., U. S. A.

[Improved Universal Wood Worker.] Thos. P. Egan, Pres. Ed. Ruthven, Sec. F. Danner, Supt.

ZELL'S SAFETY BOILER.

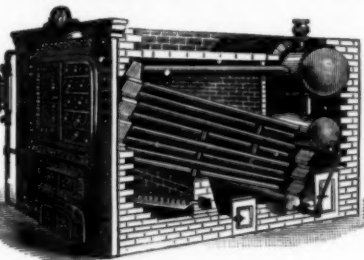
Economy

Unexcelled.

Durability

Guaranteed.

Send for Circulars.



POSITIVELY

WILL NOT

EXPLODE.

—MANUFACTURED BY—

Safety Steam Generator Com'py,

68 Warren Street, New York.

The True Idea of Assurance.

Women's Mutual Insurance



and ACCIDENT COMPANY.

OFFICERS AND

ELIZABETH B. PHELPS, Pres.

MARGARET HOLCOMBE, Vice-Pres.

EMILY TAYLOR,

Elizabeth S. Roberts, H. Louise Gates,

ALFRED K. HILLS, M. D., 465 Fifth Avenue.

JOHN A. KAMPING, Attorney and Counsel, 128 Broadway, New York.

Incorporated under the Laws of New York.

ITS OBJECT.

This company is the pioneer in throwing down the bars of unjust discrimination against women in life insurance. Statistics and common observation prove mortality to be in favor of females at every age, and married as well as single. To remove this prejudice, and to secure to women an equal estimation in her insurability, the promoters of this enterprise have devoted themselves. Consistently with this principle WOMEN AND MEN are equally insured in this company without discrimination on account of sex.

ITS MEMBERSHIP comprises persons between the ages of 16 and 60, of approved physical condition. The Life Class is separate and distinct from the Accident Class, members being liable for losses only occurring in the class to which they belong.

ITS PLAN secures insurance at cost, and embraces the best features of similar associations, with such improvements added as enlightened experience has shown to be desirable for the member's advantage and the security of the association.

ITS SAFETY AND SECURITY consists in its ECONOMICAL system, its IMPOSSIBILITY of insolvency, and its SECURITY RESERVE FUND.

DIRECTORS:

ELIZABETH HARDENBURGH, Treas.

CORNELIA KAMPING, Actuary.

Secretary.

Charlotte Mulligan, M. F. Hoagland.

MEDICAL EXAMINERS.

MARY PUTNAM JACOB, M. D., 110 W. 34th Street.

INCORPORATED UNDER THE LAWS OF NEW YORK.

FINALLY.

This company avoids complicated schemes and plans by means of which impossible results are promised. Its contracts are plain, easily fulfilled and liberal. It issues the following forms:

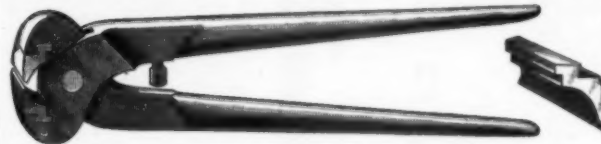
1. Ordinary Life Policy, \$100 to \$10,000.
2. Ordinary Accident Policy, \$5,000 death indemnity; \$25 weekly.
3. Combined Life and Accident Policy.
4. \$500 Savings Bond.

BANKERS: BANK OF THE METROPOLIS, New York City.
DEPOSITORY OF RESERVE FUND: FARMERS' LOAN AND TRUST CO., New York City.

The officers would be pleased to furnish any further particulars which may be desired in relation to the Company's affairs, or the way to obtain a policy. Agents are desired in every city, village and district throughout the healthful sections of the country. Address all communications to the

WOMEN'S MUTUAL INSURANCE AND ACCIDENT CO., 128 BROADWAY, NEW YORK.

CAREW'S PATENT WIRE CUTTER.



These goods have recently been greatly improved. They are now made throughout of FORGED STEEL

The advantage of this cutter is seen at a glance. The adjustable jaws are its main feature. These are made of the best tool steel, and are brought to a keen cutting edge before being tempered. The cutting quality is unsurpassed. Whenever they become dulled by use, they can easily be removed, by driving from the end showing price-mark, ground, and as easily replaced. This may be repeated as often as expedient; or they can be replaced by duplicate jaws, thus obviating the necessity of purchasing new cutters. Five sizes 6, 8, 10, 12 and 14 inch. If your merchant does not keep them, address

M. W. ROBINSON. Sole Agent, 79 Chambers St., N. Y.

H. J. McKEOWN,

MACHINIST AND MILLWRIGHT.

Shafting, Hangers and Pulleys, Engineers' Supplies, Packing, Sheet Gum, Pipe, Fittings, and Brass Goods. Special attention given to fitting out shoe and other factories, and to the repair of Gas Engines. Has now on hand five Wais' Patent Power Combined Splitting and Squaring Shears, which are new, and may be had on reasonable terms. Also dealer in New and Second Hand Machinery of all kinds. Write for Catalogues. 196 E. FRONT STREET, CINCINNATI, OHIO.

BAY STATE HOUSE,

WORCESTER, MASS.

W. L. SHEPARD, Proprietor.

This House has been thoroughly repaired and renovated, and will be KEPT STRICTLY FIRST CLASS IN EVERY RESPECT.

The Only First-Class Hotel in the City.

Rates, \$3.00 and \$3.50 per day

Massasoit House,

SPRINGFIELD, MASS.

M. & E. S. CHAPIN, Proprietors,

Near the Union Depot.

THOROUGHLY FIRST-CLASS.

Colonnade Hotel,

Chestnut St., Cor. 15th,

One block from new Penna. Railroad Depot,

PHILADELPHIA.

H. J. & G. R. CRUMP. E. A. GILLET.

A FAVORITE RESORT

FOR ALL

SOUTHERN TRAVEL.



"Nothing is denied to well directed Diligence."



MYERS SANITARY DEPOT.

Office and Salesroom—92 Beekman Street.
Factories—126 Beekman and 212 Front Street,
Warehouses—246 Water Street.

NEW YORK.

SPECIALTIES IN PLUMBERS' SUPPLIES.

JOHN R. EDWARDS, Blank Book Manufacturer,

LITHOGRAPHER, PRINTER AND STATIONER,

167, 169 AND 171 W. LOMBARD ST. COR. SHARP ST.

BALTIMORE, MD.

Specialty: Account Books to order for Manufacturing Establishments, Banks and Insurance Companies. Estimates Furnished.

WORK-SHOPS

Without Steam Power

SHOULD USE

BARNES'

Patent Foot Power Machinery. COMPLETE

Outfits for actual workshop business.

With them Builders, Cabinet Makers, Metal and Wood Workers compete with steam power.

Machines on trial if desired.

Proof of value, prices, full detail, illustr'd catalogue, free.

W. F. & John Barnes Co.

Rockford, Ill.

Address No. 221 Ruby St.

Dealers, send for Discounts.

Barnes' Pat. Upright Drills.
20-inch Swing, with both
Worm and Lever Feed.Barnes' Patent Engine Lathe
15-inch swing, 6-foot or 8-foot
Bed. These machines are made a
specialty in our factory, they have
advantages not found in other
machines in this line. It will pay
parties desiring to purchase, or
know more about this class of
machines, to send for full description
and prices.W. F. & JOHN BARNES,
221 Ruby St., Rockford, Ill.**STEEL
CASTINGS**

FROM 1-4 to 15,000 lbs. WEIGHT.

True to pattern, sound, solid, free from blow-holes, and
of unequalled strength.Stronger and more durable than iron forgings in any
position or for any service whatever.40,000 CRANK SHAFTS and 30,000 GEAR WHEELS of
this steel now running prove this.

CRANK SHAFTS and GEARING specialties.

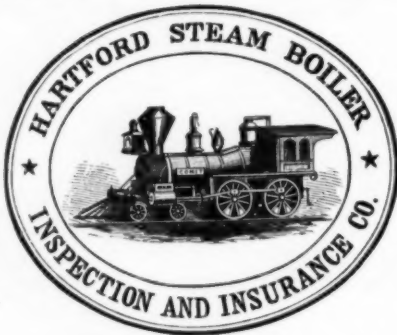
STEEL CASTINGS of every description.

Send for Circulars and Prices to

CHESTER STEEL CASTINGS CO.

Mee, 407 Library Street, Philadelphia.

Works, Chester, Pa.

—ISSUES—
POLICIES OF INSURANCE
AFTERA CAREFUL INSPECTION
OF THE
BOILERS.Covering all
Loss or
Damage toBoilers, Buildings and Machinery
ARISING FROM STEAM BOILER EXPLOSIONS.

The Business of the Company Includes All Kinds of Steam Boilers.

Full information concerning the plan of the Company's operations can be obtained at the
COMPANY'S OFFICE, Hartford, Conn., or at any agency.

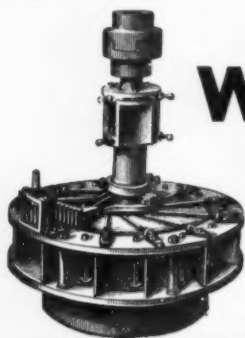
M. ALLEN, Pres. W. B. FRANKLIN, Vice-Prest. J. B. PIERCE, Secy.

BOARD OF DIRECTORS:

J. M. ALLEN, President.
LUCIUS J. HENDEE, President Aetna Fire Insurance Co.
F. W. CHENEY, Asst. Treas. Cheney Bros. Silk Mfg. Co.
CHARLES M. BEACH, of Beach & Co.
DANIEL PHILLIPS, of Adams Express Co.
G. M. BARTHOLOMEW, Pres't American National Bank.
R. W. H. JARVIS, Pres't Colt's Fire Arms Mfg. Co.
THOMAS O. ENDEIS, Secretary Aetna Life Insurance Co.
LEVERETT BRAINARD, of Case, Lockwood & Brainard.

GEN. WM. B. FRANKLIN, Vice-President Colt's Patent
Fire Arms Manufacturing Co.
GEO. CROMPTON, Crompton Loom Works, Worcester.
WILLIAM ADAMSON, of Baedler, Adamson & Co., Phila.
HON. THOMAS TALBOT, Ex-governor of Massachusetts.
NEWTON CASE, of Case, Lockwood & Brainard, Hartford.
NELSON HOLLISTER, of State Bank, Hartford.
CHAS. T. PARRY, of Baldwin Locomotive Works, Phila.
HON. H. C. ROBINSON, Attorney-at-Law, Hartford.

LAWFORD & McKIM, Agents for Maryland, 10 S. Holliday St., Baltimore, Md.

**JAMES LEFFEL'S IMPROVED
WATER WHEEL**

MADE BY JAMES LEFFEL & CO.

The "OLD RELIABLE" with Improvements making it the
Most Perfect Turbine now in use, comprising the Largest
and the Smallest Wheels under both the Highest and Lowest
Heads in this country. Our New Pocket Wheel Book sent free.
Address

JAMES LEFFEL & CO.

SPRINGFIELD, OHIO.

AND 110 LIBERTY STREET, NEW YORK CITY.

BRASS!

Roll, Sheet and Platers' Brass

GERMAN SILVER.

COPPER, BRASS AND GERMAN SILVER WIRE,

BRASS and COPPER TUBING,

BATTERY and PLATERS' SILVER, &c.

PHILIP R. VOGEL, JR.

Manufacturers' Agent.

No. 79 German Street Baltimore, Md.

**Newell
Universal Mill Co.**

10 BARCLAY ST.

NEW YORK.

**Newell's Cotton Seed Huller & Separator.**

IMPROVED 1885, with AUTOMATIC FEEDER.

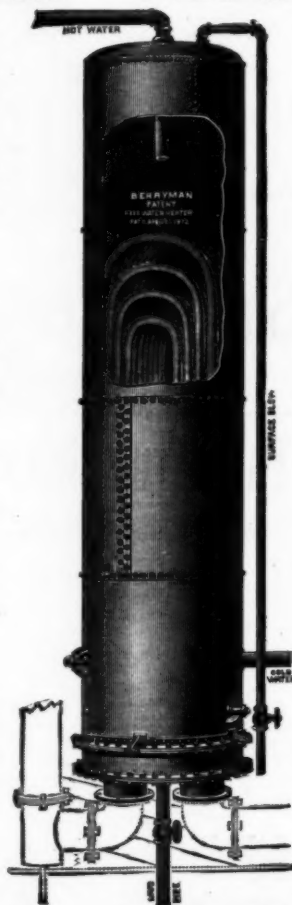
Capacity from 1/2 to 4 tons of Seed per hour.
Hullers for Oil Mill, Plantation and farm use.
Mills for grinding Bone, Clay and Cotton Seed.

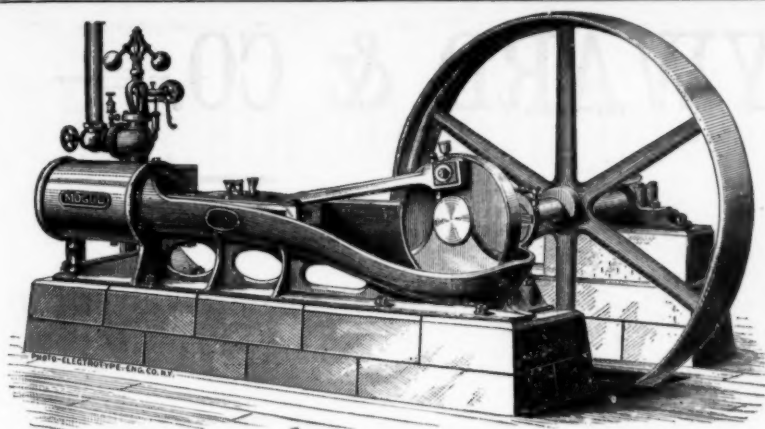
Send for cuts and prices. Write for testimonials.

**THE BERRYMAN
Patent Feed Water Heater and Purifier**The Shells of the Berryman are of C H
No. 1 iron, and tested to 175 pounds cold
water. Every heater is guaranteed to be
absolutely tight, making it the only Feed
Water Heater applicable to a Condensing
Engine, increasing the vacuum and imparting
a high degree of heat in the feed water, sav-
ing eight to ten per cent.**THE BERRYMAN**has been in constant use for more than 12
years in all parts of the United States and
Europe, and none have ever needed repairs.
It gives the highest result attainable by the
use of exhaust steam.Repairs, and the vexation by
shutting down when in a hurry, are saved.
The trouble and expense of throwing out a
poor heater and putting in a good one are
saved by the use of THE BERRYMAN
FEED WATER HEATER AND
PURIFIER.All Oil or Fatty Matter is excluded
from the boilers, as the feed water and exhaust
steam do not come in contact by the use of
THE BERRYMAN FEED WATER
HEATER AND PURIFIER.**I. B. DAVIS & SON,**

Sole Proprietors & Manufacturers in the U. S. Office & Works, HARTFORD, CONN.

Philadelphia Office, 125 North 4th St., JAS. BERRYMAN, Manager.





THE "MOGUL" ENGINE.

(NEW DESIGN.)

Bearings Extra Large, Compact, Simple, Strong, Durable, and of Superior Workmanship and Materials.

BUILT BY

MERWIN MCKAIG, - - - Cumberland, Md.
Also Manufacturer of Boilers, Pulleys, Shafting, &c. Send for catalogue.

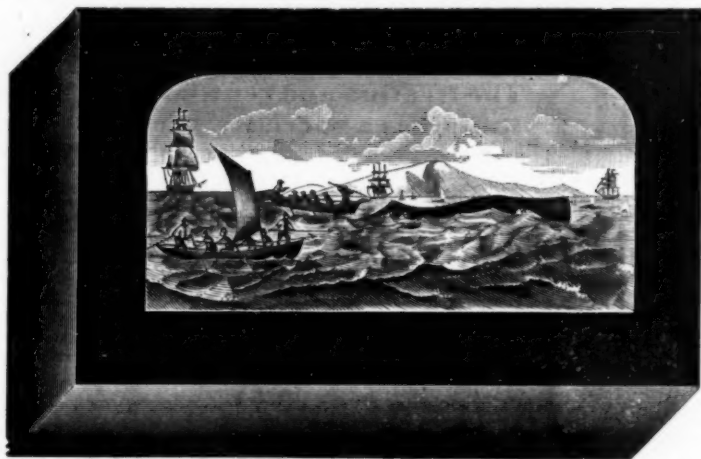
The Oldest Oil House in the City. Business Established 1832 (on Present Premises.)

WM. C. ROBINSON & SON,

81 SOUTH ST., BALTIMORE, MD.

Manufacturers and
Wholesale Dealers in

OILS!



Specialties—Oils for Cotton and Woolen Mills, Railroads, Tanners' and Machinery Use.

Our Colophine Cylinder Oil is the best in use, 650° fire test, 28° gravity. Perfect Engine Oil 600° fire test, 20° gravity. Colophine Engine Oil 550° fire test, 23° gravity. Agent for Downer's Spindle, Champion and Mineral Sperm, Meriam & Morgan's Paraffine Co's Paraffine, William's Odorless Lubriphene Oils. Also Manufacturers' Agent for 25°, 28° and 30° Paraffine, and 31° Neutral Bloomless Oils. Correspondence solicited.



EWART'S PATENT CHAIN BELTING

Especially designed for the rapid and economical handling of Grain, Malt, Saw Dust, Coke and Clay, Dry and Spent Tan, Phosphates and Chemicals, Broken Stone, Coal, Ice, Ores, etc.

R. SWORMSTEDT,

48 S. FREDERICK ST.

Sole Agent for Maryland, Virginia,
North Carolina, South Carolina and
Georgia.

Send for Illustrated Catalogue.

Please mention this paper.

Queen City Printing Ink Co.

CINCINNATI, OHIO.

WITH WHICH THIS PAPER IS PRINTED
IS MADE BY THE
THE INK QUEEN CITY PRINTING INK CO
CINCINNATI, O.

MANUFACTURERS OF ALL DESCRIPTIONS OF

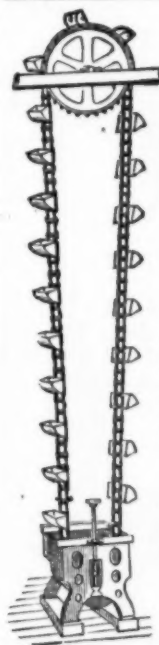
INKS!

Varnishes and Sizes

FOR PRINTERS' USE.

New York Office, . . . 194 William Street.

Philadelphia Office, . . . 434 Walnut Street.



ANTI-FRICTION Roller Detachable Chain Belting.

Especially adapted for the rapid and economical handling of CLAY, TILE, LIME, PLASTER, CEMENTS, BROKEN STONE, COAL, ORES, SAND, DRY and WET TAN, SAW DUST, SLABS, PULP, GRAIN, FLOUR, ICE, &c., &c., &c. For ELEVATORS, CARRIERS, CONVEYERS, &c., &c. Propelling STEAM BOATS and for other DRIVING PURPOSES.

MANUFACTURED AND SOLD BY THE

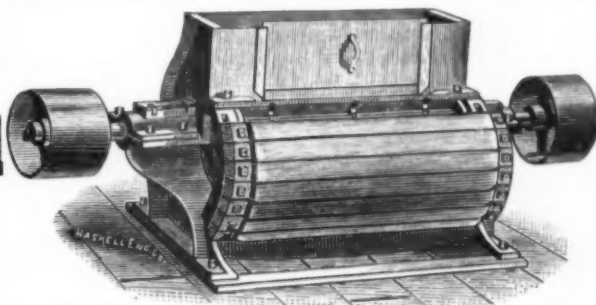
Roller Chain Belting Co.

COLUMBUS, OHIO.

Send for Illustrated Catalogue.

CLIMAX

Cotton Seed HULLER.



GEO. J. FRITZ, Central Iron Works,

—MANUFACTURER OF—

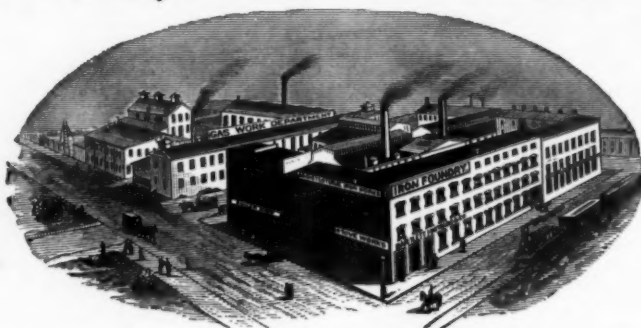
Cotton Seed Hullers, Meal Moulders, Crushing Rolls, Gearing, Shafting, Pulleys,
and Machinery in General. Old Mills Re-ground and Warranted.

2022 to 2028 S. THIRD STREET, ST. LOUIS, MO.

—BARTLETT, HAYWARD & CO.—

—WORKS—

Pratt and Scott Streets,
BALTIMORE, MD.



—OFFICE—

Cor. German & Calvert Sts.
BALTIMORE, MD.

Architectural Iron Works,

IRON FRONTS, COLUMNS, SHUTTERS, CASTINGS AND ORNAMENTAL IRON WORK

GAS WORKS MACHINERY,

TELESCOPE AND SINGLE LIFT HOLDERS, CONDENSERS, SCRUBBERS, PURIFIERS, &c.

BOILER IRON WORK

Boilers, Tanks, Stills, &c.

HOT-WATER HEATING, HIGH AND
LOW PRESSURE STEAM HEATING.

HEATING.

The Heating and Ventilating of Public
Buildings a Specialty. Correspondence Solicited.

MANUFACTURE THE

Stokes & Parrish Machine Co's Standard Hydraulic ELEVATOR.

Unequalled for safety, extreme simplicity, great economy in the use of water. No liability to derangement and consequent stoppages and delays. Least possible wear of ropes and other parts of the machine. Ease and facility with which the packing may be renewed. Simplicity of manipulation and operation. Smoothness and Noiselessness of motion. Freedom from shock caused by abrupt stoppages.

Wiswell Ore Pulverizer and Amalgamator Combined.

The cost of this Mill is much less than any other machine of sufficient capacity to do the same amount of work.

It requires less power to run it, (10-horse being sufficient.)

The wear and tear of the Mill is much less than any other Quartz Mill doing the same amount of work, and the quality of the work done by it is greatly superior to work done in any other Quartz Mill now in use.

It crushes to a uniform fineness and makes no slimes, so that no sizing is required for concentration.

The Mill is equally well adapted to crushing and pulverizing of all classes of ores, either for amalgamation or concentration, and will pulverize and amalgamate from one-half to one ton per hour, according to character of ore and fineness of screens.

With ordinary care there is no loss of mercury by flouing, and consequent loss of gold, as in most other Mills where mercury is used in the Mill.

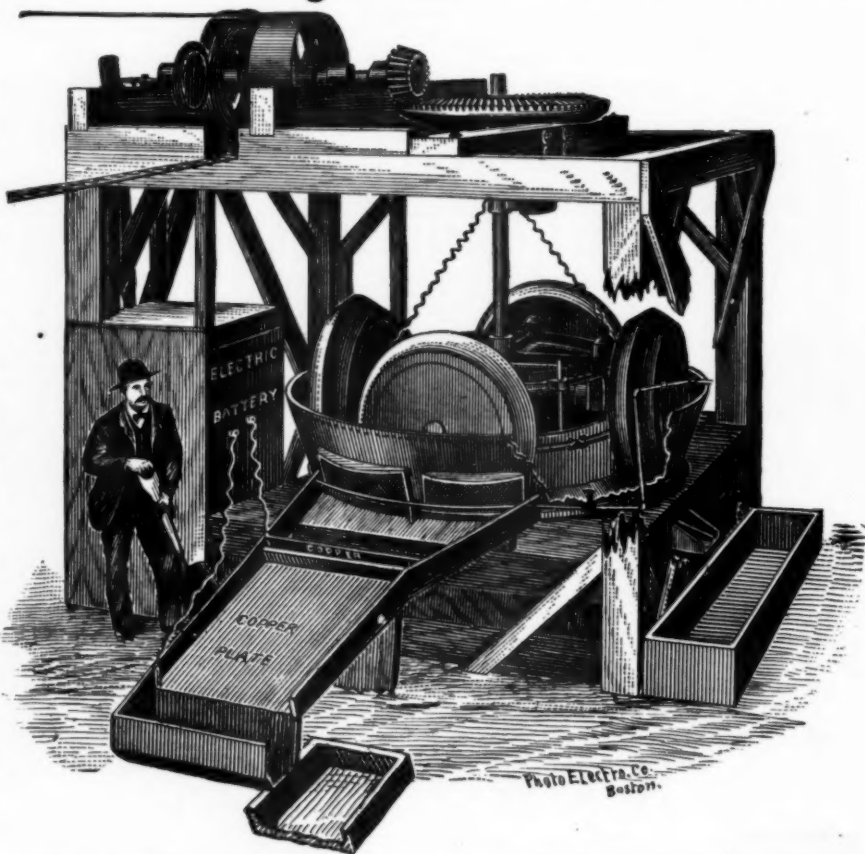
Amalgamation is carried on in the same operation with the crushing. The mercury is placed in the Mill in quantities varying from 10 to 40 pounds.

The application of electricity to the Mill for the purpose of cleaning and keeping the mercury alive has been to a very large extent superseded by the invention and introduction of the Mercury Trap in the Mill for the purpose of drawing off the mercury when charged with gold or on the slightest indication of flouing. By this ingenious device the mercury can be changed as often as desired without loss of time in either crushing or amalgamating. By opening this Trap the amalgam is discharged from the Mill in three minutes, and clean mercury introduced in its place.

To those familiar with running a Gold Mill this latter advantage will be greatly appreciated; in fact, it gives the mill-man full control of his work.

This Mill has been on exhibition at the foundry of Messrs. Bisbee & Endicott, at Chelsea, Mass., for the past 18 months, a good part of the time in active operation, and we have treated the most rebellious ores from many mining districts with most satisfactory results to the parties concerned.

The past year we have sold many Mills, which may be found in Michigan, North Carolina, Dakota, Montana, Idaho, Colorado, California, Mexico, Nova Scotia, etc. All those in operation are giving the most perfect satisfaction, as testimony will prove, and we will take pleasure in referring to any one of these on application.



We Furnish a Complete Mill for \$2,500, Delivered on Board Cars.

WISWELL ELECTRIC MINING MACHINERY COMPANY,

A. A. REEVE, Treasurer.

4 POST-OFFICE SQUARE, BOSTON.

GEO. B. WELCH, President, Washington, D. C.

GEO. A. DELEREE, Vice-President, New York City.

FRED. BALCOM, Treasurer and General Manager, New York City.

J. H. LINDLEY, Secretary, Washington, D. C.

The National Investment and Development Company,

701 9th Street, N. W., Washington, D. C., and 234 Broadway, New York City.

Contractors and Builders of Gas and Water Works for small cities, Ice Factories and Cold Storage Houses, on the most approved systems now in use. Capital and machinery furnished for any satisfactory manufacturing business. Stock companies organized and their Bonds and Stock put on the market. This company will only invest in enterprises that meet the approval and investment of local capital. We invite correspondence with those who wish to establish Cotton Seed Oil Mills, Cotton Gins, Ice Factories, Brick Machinery on clay beds, Fertilizer Works, &c., &c. We also build houses on the Installment Plan, taking a mortgage on same for 80 per cent. of the purchase price. *No Patents Purchased.* Our business is to develop enterprises needing assistance and experience to meet the demands of trade. For particulars apply to

FRED. BALCOM, General Manager,

No. 234 BROADWAY, NEW YORK.

E. C. HUXLEY, Pres.

T. L. STURTEVANT, Treas.

THE STURTEVANT MILL.

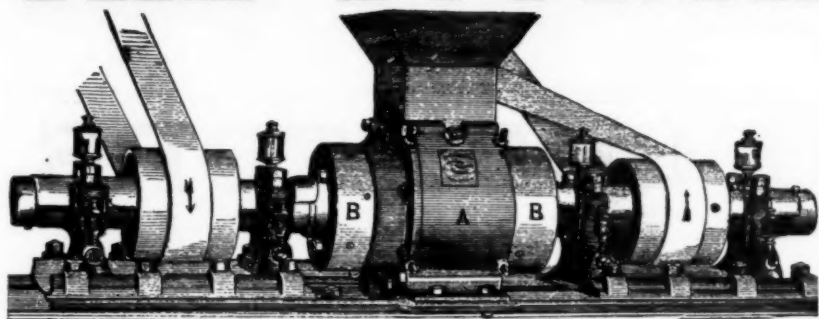
ROCK CRUSHER

—AND—

PULVERIZER COMBINED.

FOR GRINDING AND CRUSHING

Ores, Phosphates, and Other Hard Substances.



Developing an entirely **NEW PRINCIPLE**. Avoiding the usual wear and tear of machinery, and doing in a much more rapid and thorough manner the work of a **crusher and stamp mill combined**. The attention of all those interested in the crushing or grinding of Ores, Phosphates, and other hard substances, is called to the **absolute originality** of this invention. The expense of wear and tear is 75 per cent. less than any machine ever invented. No expensive foundations. No skilled labor required. One mill equal to a 30-stamp battery and crushers combined, occupies space of 12 feet by 4 feet in width. **These machines are in operation on a large scale.** Every mill warranted to do all claimed for it. Send for catalogues of this wonderful machine, and full information.

FRASER & CHALMERS, Sole Manufacturers,

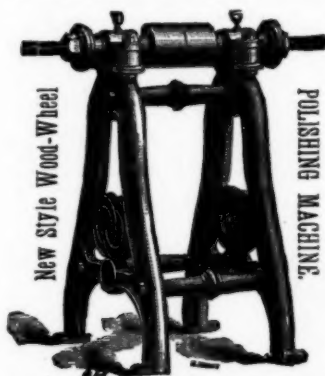
45 Fulton Street, Chicago.

2 Wall Street, New York.

11 Calle de Juarez, Chihuahua, Mexico.

423 Blake Street, Denver.

STURTEVANT MILL CO., 89 MASON BUILDING, BOSTON, MASS.



UNION STONE COMPANY.

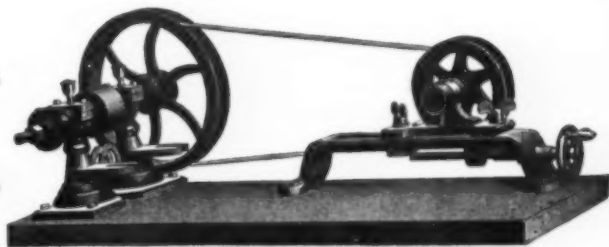
WOOD-POLISHING WHEELS A SPECIALTY.

Best Material and Workmanship. Iron Bushings and Perfectly Balanced.

38 and 40 Hawley St., Boston.

CATALOGUE ON APPLICATION.

Special Contracts for Large Orders.



ENDLESS BELT MACHINE.

ESTABLISHED

1774.

FLOURING

BUHRS 1774.



MILLS.

ROLLS 1882.

This Company owns and operates three Mills, as follows:

Patapsco Mill A, Ellicott City, Md. Patapsco Mill B, Baltimore, Md.

Patapsco Mill C, Orange Grove, Md.

—Having a daily capacity of 1,500 barrels.—

The value of Flour depends on the proportionate quantity of Gluten, Starch, Sugar and Phosphate of Lime. Maryland and Virginia Wheat, from which our Patent Roller Flours are manufactured, is unequalled for its purity and superior quality of alible properties.

ASK YOUR GROCER FOR

Patapsco Superlative Patent. Patapsco Choice Patent. Patapsco Family. Cape Henry Family. Patapsco Extra. North Point Family. Chesapeake Extra. Bedford Family. Orange Grove Extra.

C. A. GAMBRILL MFG CO.

Office, 32 Commerce St., Baltimore, Md.

ALWAYS ASK FOR
ESTERBROOK'S
CELEBRATED
STEEL PENS.

PENS

LEADING NUMBERS:

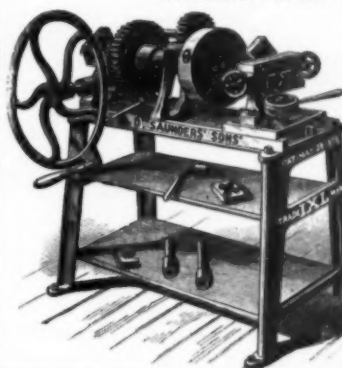
048, 14, 130, 333, 135, 161

For Sale by all Stationers.

The Esterbrook Steel Pen Co.
26 John Street, New York

D. SAUNDERS' SONS,

MANUFACTURERS OF THE ORIGINAL



TRADE **I.X.L.** MARK.

Pipe Cutting and Threading Machine.

BEWARE OF IMITATIONS. None genuine without our Trade Mark and name. Also

Patent Wheel Pipe Cutter

STEAM AND GAS FITTERS' HAND TOOLS.

Pipe Cutting and Threading Machine

For Pipe Mill Use a Specialty.

Send for Catalogue B.

YONKERS, N. Y.



FOR SALE CHEAP!

40 Horse Power VERTICAL BOILER.

This Boiler was built to order, of very best materials and workmanship; has double-riveted seams; was used but a short time, and is much better than most of the new boilers now made. Cost to build, \$650. For sale at **HALF-PRICE**, with fixtures, &c. Is a **RARE BARGAIN**. Ready for immediate delivery. Also, 18-horse **HORIZONTAL ENGINE**; very strong and heavy.

JOSEPH B. MATTHEWS,

41 Centre Market Space BALTIMORE, MD.

GEO. V. CRESSON,

PHILADELPHIA

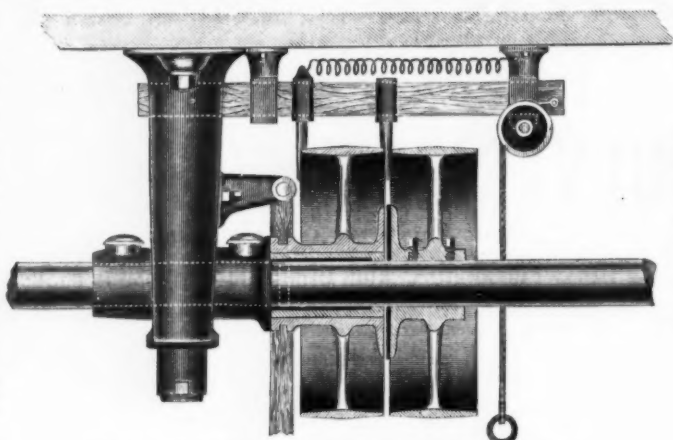
Shafting Works,

18th and Hamilton Streets, Philadelphia, Pa.

—MANUFACTURER OF—

SHAFTING,

And all the Appurtenances used in the
TRANSMISSION OF STEAM POWER.



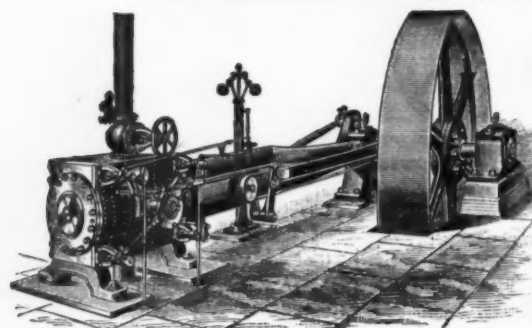
ECONOMY, DURABILITY, SAFETY.

AVOID ANNOYANCE OF RUNNING
LOOSE PULLEYS.

PATENT ADJUSTABLE
LOOSE PULLEY ARRANGEMENT.

ROBT. WETHERILL & CO.

CHESTER, PA.



ESTABLISHED 1872.
Corliss Engine

—BUILDERS—

Condensing, Non-Condensing,
Compound.
Great Economy, Durability,
Close Regulation.

BOILERS,
Shafting and Gearing.

CORLISS PUMPING ENGINES

—CITY WATER WORKS—



Chapman Valve Mfg. Co.

MANUFACTURERS OF

STEAM, GAS AND WATER

Valves and Gates.

Fire Hydrants

With or Without INDEPENDENT VALVES.

General Office and Works,

INDIAN ORCHARD, MASS.

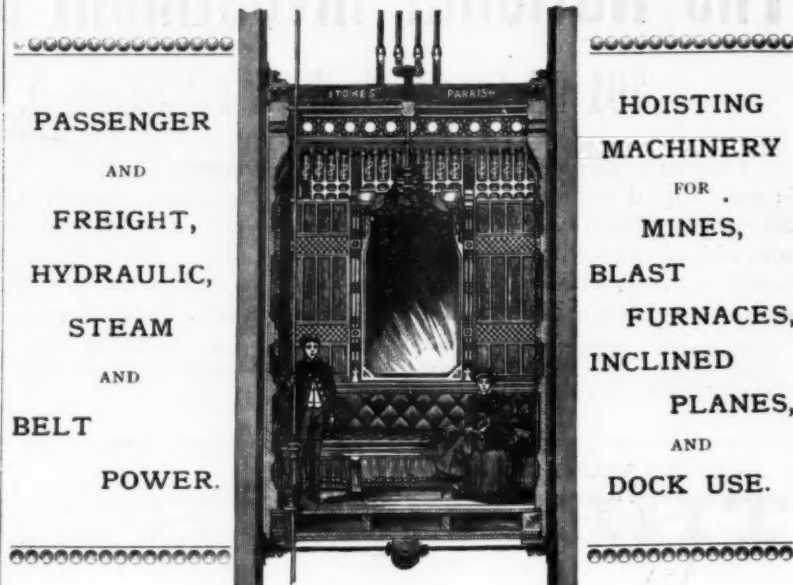
Treasurer's Office,

Mason Building, 72 Kilby and 112 Milk Sts., Boston.

—ALL WORK GUARANTEED.

Send for Descriptive Circulars and Price-List. Correspondence solicited.

Stokes & Parrish Machine Co.



PASSENGER
AND
FREIGHT,
HYDRAULIC,
STEAM
AND
BELT
POWER.

HOISTING
MACHINERY
FOR
MINES,
BLAST
FURNACES,
INCLINED
PLANES,
AND
DOCK USE.

ELEVATORS.

SAFETY, SPEED AND ECONOMY.

WORKS AND OFFICE:

30th and Chestnut Sts.,
PHILADELPHIA.

BRANCH OFFICE:

95 & 97 Liberty Street,
NEW YORK.

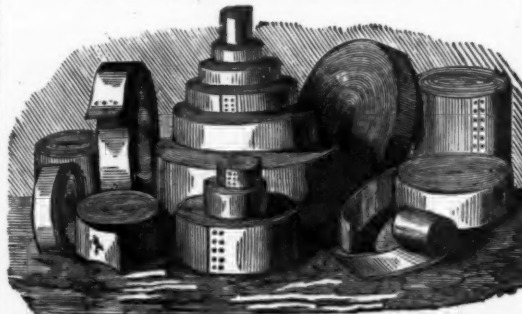
THOMAS K. CAREY & CO.

25 S. Charles Street, BALTIMORE, MD.

Manufacturers **Pure Oak Tanned Leather Belting**

Agents Hoyt's Leather Belting, Boston Belting Co's Rubber Belting.

DEALERS IN



Lace, Picker and Belt Leather,
Roller Skins, Roller, Clearer and
Slasher, Cloths, Ring Travelers,
Bobbins, Shuttles, Cotton Belt, Ele-
vator Buckets, Spiral Conveyers,
and Mill Goods of all kinds.—
Rubber Hose, Gaskets, Valves,
Deckle Straps, Pure Gum, Cloth
Insertion, and Rubber-Back Pack-
ing, Tubing, Cotton and Linen
Hose, Springs, and Mechanical
Rubber Goods of every Description.

W. J. CHAPMAN, Direct Shipper Special attention given to orders from found-
ers and machinists.
of COAL AND Connellsville Coke. Office, York and
William Sts.

BUFFALO CUPOLA and FORGE BLOWERS,

PORTABLE FORGES,

Blacksmiths' Hand Blowers,

STATIONARY BLAST FORGES,

HEATING AND ANNEALING FURNACES.

Buffalo Forge Co.



—490 BROADWAY, BUFFALO, N. Y.—